

ARCHEOLOGICAL INVESTIGATIONS
OF THE ELKHORN RANCH SITE

by

Dee C. Taylor
Montana State University

(1959)

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of those who participated in the archaeological project reported in
the pages which follow.

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report. It is the Department of Anthropology and Archaeology of
Montana State University. Dr. Robert Taylor assumed responsibility for
identifying our field notes and the specimens in the collection.

[1952]

Professors William G. Sturges, University of Michigan, and Dr. R.
H. North Dakota State University, and the U. S. Department of
Agriculture's Seed Laboratory participated with us in the
identification of plant remains.

I am grateful to Paul L. Sturges, National Park Service,
The Anthropologist, and wife who were available to us and who
provided much of the information. I am also grateful to the
National Park Service and through its reports for the



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Many individuals contribute to an archeological report in one way or another. I would like to express my gratitude and appreciation to those who participated in the archeological project reported in the pages which follow.

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William G. Buckles and John J. Hoffman, graduate students in anthropology who were on my excavation crew, asked provocative questions and often provided meaningful insights. These men, along with other crew members, Arvid Scott, Rodney Myers, and Vernon Goldsberry, moved tons of earth and cheerfully complied with my capricious whims.

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INTRODUCTION

The First Session of the Eightieth Congress in October 1907, Senate No. 31, on April 25, 1907 approved the act to establish Theodore Roosevelt National Memorial Park. Under the provisions of this act an area of almost 110 square miles in the North Dakota badlands was set aside as a National Park. "Theodore Roosevelt's service to his country in preserving its natural resources is commemorated here, where, for a period of his youth, he lived a life of adventure in the open." (U.S. Information Folder).

THE ELKHORN RANCH

THEODORE ROOSEVELT NATIONAL MEMORIAL PARK

There are three units in Theodore Roosevelt National Memorial Park; one near Medora where Park Headquarters are located, the second, a section of rugged canyon, cliffs, and badlands extending easterly from Medora City; third, the Elk Horn Ranch along the Little Missouri River about midway between the other two.

Although Roosevelt spent little time hunting throughout most of the badlands country, the former president was most closely associated with only one unit, the Elk Horn Ranch. For a time he lived there. The books which he wrote during that period contain descriptions of the Elk Horn ranch and the exhilaration and the rugged beauty of the badlands of which it is a part.

For visitors who are interested with Roosevelt and his life in Dakota the Elk Horn Ranch is the focal point of interest within the park. The ranch site, even though it is thirty-five miles north of

CHAPTER I

INTRODUCTION

The First Session of the Eightieth Congress in Chapter 41, Public Law 38, on April 25, 1947 approved "An Act to Establish Theodore Roosevelt National Memorial Park." Under the provisions of this act an area of almost 110 square miles in the North Dakota badlands was set aside as a National Park. "Theodore Roosevelt's service to his nation in conserving its natural resources is memorialized here, where, for a period in his youth, he lived a never-forgotten life in the open." (NPS Information folder).

There are three units in Theodore Roosevelt National Memorial Park; one near Medora where Park Headquarters are located; the second, a section of rugged canyons, cliffs, and picturesque badlands scenery near Watford City; third, the Elkhorn Ranch along the Little Missouri River about midway between the other two.

Although Roosevelt chased cattle and hunted throughout most of the badlands country, the former president was most closely associated with only one unit, the Elkhorn Ranch. For a time his home was there. The books which he wrote during that period contain descriptions of the Elkhorn cabin and the outbuildings; the passages reflect a certain quiet pride of ownership.

For visitors who are concerned with Roosevelt and his life in Dakota the Elkhorn Ranch is the focal point of interest within the park. The ranch site, even though it is thirty-five miles north of

Medora, has great potential as an outstanding tourist attraction. Perhaps in recognition of this fact the act which created the Memorial Park provided under Section 4:

" . . . and to reconstruct thereon the log ranch house thirty by sixty feet, the log blacksmith shop sixteen by twenty feet, one log stable sixteen by twenty feet, one log stable twenty by thirty feet, log dog house, three log rectangular corrals, and one log circular corral, as they existed at the time the premises were occupied by Theodore Roosevelt . . ." (emphasis is ours).

In order to fulfill the requirements as they were written into the act it was necessary to find out exactly where it was along the river that the ranch buildings had stood. This in itself was not an easy problem, since very little evidence remained on the surface to indicate the site. In fact, after a thorough search it was necessary to amend Public Law 38 and correct the boundaries around the former building area. This amendment, Public Law 620 (Eightieth Congress, Chapter 437, Second Session, approved June 10, 1948) contains the legal description of the site. It reads:

Amend section 4 by striking out "lots 2, 3, 4, and 6 of section 33, township 144, range 102," and inserting in lieu thereof "lots 6 and 7, section 33, township 144 north, range 102 west; southeast quarter of southeast quarter, section 32, township 144 north, range 102 west; lots 4 and 5, section 4, township 143, range 102 west; and those parts of lot 1 and the southeast quarter of the northeast quarter, section 5, township 143 north, range 102 west, that lie north and east of a line running diagonally from the northwest corner of lot 1 to the southeast corner of the southeast quarter of the northeast quarter of said section 5."

The body of this report is a description of the archeological activities at the Elkhorn Ranch during the period between July 20 and September 15, 1959. Here is an example of "historic archeology," an instance where the data from history and archeology supplement each other and have a single goal -- to recreate a picture of the Elkhorn Site as it had been when it was Roosevelt's "home ranch."

CHAPTER II

THE SETTING

Western North Dakota lies in the Missouri Plateau section of the Great Plains Province. But along the Little Missouri River, just north and east of Medora, the terrain has been sculptured into a vast panorama of tablelands, buttes, conical peaks, and sharp crested hills. Deep gullies, coulees, and narrow ravines cross and recross throughout the area. These rugged zones, difficult to transverse, are the famous "badlands." Such badlands are formed:

"... in semiarid climates where occasional very heavy rains erode poorly cemented or consolidated formations. In such a region, commonly nearly devoid of vegetation, erosion, instead of carving hills and valleys of the ordinary type, has cut the land into an intricate maze of narrow ravines, sharp crests and pinacles." (Holland 1957, 5).

These present precipitous or gently sloping walls in which varicolored strata are exposed. Sands, shales, and clays are of many colors-- blues, yellows, buffs, and gray. There are black veins of coal, red and brown iron-stained bands of sand and clay, and red, baked shales.

Geology.--The lowest bed rocks exposed in this area of the Badlands are the brightly colored shales, clays, silts, sandstone, and lignite beds of the Tongue River member of the Fort Union Formation. They are approximately sixty million years old and date from the Paleocene period. These beds are not marine deposits but rather were part of a vast alluvial plain that sloped eastward away from the Rocky Mountains. Rivers flowing out of the mountains onto the plain soon lost their carrying power and deposited sands and gravels near the mountain

slopes. Finer materials, clay, silt, fine sand were carried out to the Dakotas and laid over the plain, not as a uniform blanket but in lenses and bars by the shifting river channels. Early Paleocene climate seems to have been warmer and moister than our present weather. Extensive swamps formed along the sluggish streams. There were lush forests mainly composed of coniferous trees, varieties related to Sequoia, cypress, juniper and arbor vitae with some firs and spruces. Woody materials from these trees were later compacted to form the Tongue River lignite beds, and often impressions of trunks, stems, branches, and leaves are preserved in the soft coal (Leonard 1925, 7).

The Paleocene was followed by a long period of erosion. During the Eocene stream deposits of silt, shale, sand and clay built up in some parts of southwestern North Dakota. These constitute the Golden Valley formation, a group of beds which have almost entirely eroded away, if they were ever present, in the South Unit of the Park.

During the following Oligocene period numerous large fresh water lakes dotted the Missouri Plateau Section. The White River deposits were built up largely of clays, shales, and gravels laid down in these lakes. The lower bentonitic clay members of this formation have played a prominent part in the formation of little badlands. These clay beds, sometimes 16 to 20 feet thick, shrink and crack, but weathering forms a rough resistant shell that retards erosion (Holland 1957, 1-4). The Little Missouri was one of the rivers meandering across the plain at this time.

Following the Oligocene period there may have been renewed uplifting of the Rocky Mountains, for the streams began to downcut their channels. At the end of the Pliocene and during the beginning

of the Pleistocene the headwaters of the Bell Fourche River in South Dakota captured some of the headwaters of the Little Missouri. With less water to carry its load the Little Missouri began to deposit sediments along its course. At this time the Little Missouri flowed into the Yellowstone River, but during the Pleistocene continental ice sheets advanced out of the north and changed the course of the river, so that its waters emptied into the Big Missouri. The new mouth of the Little Missouri was considerably lower than it had been, thus the river began to downcut. As a result its tributary streams also began to cut gullies and the formation of badlands began (Laird 1950, 228-233).

The Little Missouri has left four terraces as it cut its way down to the present level. The first terrace is about 13 to 15 feet above the streambed. The Elkhorn Ranch house and the outbuildings were on this level. A second terrace, not always discernable, is about 27 feet above the first. Remnants of an upper old river valley lie 125 to 150 feet higher and above this the old upland surface.

One of the most interesting and colorful phenomena in the Badlands is the bright red or pink bands of clinker in the Fort Union formation. Locally this is called "scoria," although technically this is a misnomer because scoria is associated with vulcanism. The clinker results from burning of lignite beds. These absorb heat from surface oxidation; the heat is cumulative until the lignite begins to burn.

"Clinker is formed by the natural burning of lignite at its outcrop, in which the resulting emanation of hot gases melt and chemically change the overlying rock" (May, 1954).

Such "scoria" has a number of uses. At the Elkhorn Ranch the path between the house and privy and the yard area by the well and utility shed was covered with clinker. This apparently firmed up the

underfooting and reduced the amounts of mud during and after the infrequent rains. The surface clays are known locally as "gumbo." When wet they form a sticky slippery mud, so that sometimes roads become virtually impassable for wheeled vehicles.

Climate.--The present climate is semiarid. There are wide variations in temperature between the summer and winter months. August heat may exceed 100 degrees; winter thermometer readings are frequently below zero. Approximately fifteen inches of rain falls per year. Some of this comes as winter snow; some as violent summer thunderstorms. On the latter occasions the Little Missouri River, generally a placid slow-moving stream only a foot or two wide, becomes a raging torrent filling its channel from bank to bank, sometimes 50 to 100 feet across. During some winters the river freezes solid, and local residents often use the riverbed as a roadway. Ice jams sometimes clog the river course causing the melt waters to overflow the channel and flood the higher terrace.

Flora and Fauna.--Short tough grass covers the prairies away from the badlands. Formerly this furnished graze for buffalo; now this is predominantly cattle country. In favorable places, such as the moist river bottom, there are groves of cottonwoods as well as various juniper, ash, and elm trees.

"Sagebrush and rabbitbrush are common. Other shrubs include sumac, chokecherry, wolfberry, American plum, buffaloberry, dogwood, wildrose, and currant. Yucca and cactus are also present. A few of the common flowers are phlox, pasqueflower, redmallow, sunflower, coneflower, bluebell, blazing star, goldenrod, aster, and scoria lily." (NPS Information folder).

Small animals are abundant in Theodore Roosevelt National Memorial Park. Porcupines, chipmunks, prairie dogs, coyotes, badgers,

beavers, bobcats, cottontails, and jackrabbits are the most common.

Reptiles include the horned toad, bullsnakes, adders, and the venomous prairie rattlesnake. A blue racer had his home near the well at the Elkhorn cabin and occasionally startled ~~us~~ by appearing and disappearing with lightning-like speed.

"The park is rich in birdlife. Magpies, hawks, falcons, eagles, owls, woodpeckers, flickers, sparrows, larks, swallows, buntings, wrens, orioles, flycatchers, and many other common species are found." (NPS Information folder).

The Elkhorn Ranch buildings were located in a clearing on an old river terrace. The terrace is amazingly flat, presenting a broad bench along the west side of the Little Missouri. Here the river flows northward in a broad sweeping curve. High eroded ridges form the northern boundaries of the ranchhouse clearing. These curve eastward, pinching off the benchland, and break off at the edges of the stream channel in steep multicolored escarpments. Similar bluffs, although not quite as high or rugged, form the western edge of the river canyon. There a dense thicket of bushes, cottonwoods, juniper and sagebrush obscures the base of the ridge. Towards the south the river bottom extends on for one or two miles before it curves out of sight, but the canyon walls begin to narrow a half-mile or so upstream from the ranch site. The broad riverbed forms the eastern boundary of the clearing. Beyond the river a bench, covered with a dense growth of cottonwoods and shrubs extends for another quarter-mile before giving way to the steep slopes which are the eastern edges of the river valley.

Roosevelt twice described the site where the Elkhorn buildings were located, once in Hunting Trips of a Ranchman (1885, 15-16) and again in more detail in Ranch Life and Hunting Trail (1889, 25-26). William Sewall also described the location of the ranch in his Bill

Sewall's Story of T. R. (1919, 13-14). These sources are quoted in full by Mattison (1950 and 1960).



Figure 1.

A view of the Elkhorn Ranch clearing looking towards the east. A very careful scrutiny will reveal our excavation of the house and barn. The base line runs between the cottonwood trees in the middle of the clearing.

CHAPTER III

A BRIEF HISTORY OF THE ELKHORN RANCH

Several authors have discussed the period that Roosevelt spent in the badlands, e.g., Hagedorn 1921, Sewall 1919, Lang 1926, and recently Mattison (1960) has prepared an excellent summary dealing with the history of the buildings at the Elkhorn Site. These accounts have proved invaluable to the archeologist as he attempted to reconstruct the life of Roosevelt's period. Archeological interpretations are more apt to be correct when supported by historical facts, and the artifacts and features disclosed by excavations often round out and complete the historical record.

The following sketchy summary provides an introduction and orientation and presents a frame of reference for the excavation report. Almost all of this information was drawn from Mattison (1950, 1960).

On September 7, 1883 young Theodore Roosevelt arrived at the depot of Little Missouri, Dakota Territory. He had come to hunt buffalo, and he hired Joe Ferris as guide to help him find the animals. While on the hunt the men stopped at Gregor Lang's ranch some 50 miles south of Medora, and while they were there Roosevelt and Lang had long discussions about the future prospects for the cattle industry in the badlands.

Before returning east with his buffalo robe Roosevelt bought out the interests of Messrs. Hawley and Wadsworth, owners of the Maltese

Cross ranch. He entered into an agreement with Sylvane Ferris and William Merrifield who were to operate the ranch for him.

In November of 1883 Roosevelt was elected to the New York State Assembly. In February of 1884 he suffered a great personal blow when his wife and mother died within a few hours of each other. Thereafter Roosevelt decided to make further investments and to occupy himself with the cattle business. With this in mind, after serving as a delegate at the Republican National Convention in Chicago, he returned to Medora and began to expand operations at the Maltese Cross.

During the summer of 1884 Roosevelt took steps to establish another ranch in the badlands. Howard Eaton probably suggested the second site to him. It was a beautiful open park on the Little Missouri River about 35 miles north of Medora. Roosevelt called the new spread the Elkhorn after a set of locked antlers that lay on the site. He persuaded Wilmot Dow and William Sewall, two former Maine guides and woodsmen, to come out as foremen of his new venture.

Sewall and Dow began work on the ranch structures in the autumn of 1884 and continued through the winter months into 1885. During that period the men lived in a small rectangular room dug into the slope of the riverbank. The Elkhorn buildings were completed in the early summer of 1885. The ranch house was one of the finest in the badlands. For the next several years this was the center of Roosevelt's activities and he describes the Elkhorn as the "home ranch."

During 1885 and 1886, aided by good grass and a mild winter, Roosevelt's ranching operations reached their peak. However, during the summer of 1886 a great many southern ranchers, who had just struggled through a bad winter, moved their stock northward onto the Dakota range. In the Medora area it was a dry year, and range conditions were poor.

In late summer of 1886 Roosevelt returned to New York where he ran for mayor of New York City but ~~was~~ defeated. At about that time Sewall and Dow decided to get out of the cattle business and with their families they returned to Maine in September.

Roosevelt turned over the management of the Elkhorn to Merrifield and Ferris, his partners in the Maltese Cross operations. It appears that the Elkhorn was occupied by Mr. and Mrs. Jack Tisdale and George Myers during the following winter of 1886-1887.

In December of 1886 Roosevelt married Edith Carow, and the couple spent several months touring England and the continent.

In the badlands the winter was harsh and deep snows mantled the range. The snow was followed by a period of thawing, then the temperature plunged to subzero and stayed there. An icy impenetrable crust formed over the sparse grass. Cattle died by the thousands. According to the tax records for Billings County Theodore Roosevelt paid taxes on sixty percent fewer cattle in 1887 than he did in 1886.

After the misfortunes which he suffered in that terrible winter Roosevelt's trips to his Dakota ranches became less frequent. For a few years he tried to recoup his losses. He probably maintained both ranches, and until 1890 the Elkhorn was the center of his operations.

During much of 1887 both Mr. and Mrs. Merrifield and George Myers were at the Elkhorn; Merrifield remained there until late in 1890. Sylvane Ferris was also at the ranch in March of 1890.

Anna Roosevelt, Robert M. Ferguson, Mr. and Mrs. Douglas Robinson, George Cabot Lodge, and Mr. and Mrs. Theodore Roosevelt visited the Elkhorn in the late summer of 1890. The ranch was abandoned soon after that visit. In March of 1891 Merrifield and Ferris

dissolved their partnership. In the summer of 1892 Roosevelt wrote Sewall that he had visited the Elkhorn and found it intact but that it made him melancholy to see it deserted.

In 1894, after President McKinley appointed him Assistant Secretary of the Navy, Roosevelt wrote Ferris that he had decided to dispose of his cattle the next year. In 1895, after the Spanish American War began and Roosevelt became a Lieutenant Colonel of the "Rough Riders," he sold his holdings to Sylvane Ferris. Probably the transfer included the Elkhorn ranch buildings.

In 1895 or 1896 when W-Bar (Wibaux) cowboys visited the ranch they found the buildings still standing, but within the next few years they had all disappeared. The cabinets, shelving, door and window frames appear to have been sold for salvage in Medora. Neighboring ranchers took such logs and lumber as they could use. The idea that the logs were swept away by floods does not seem too likely. Archeological evidence suggests that the barn and utility shed were destroyed by fire.

Mr. J. H. Reid reported that in 1901 when he established his ranch a short distance from the site of the Elkhorn structures every scrap of the buildings, except for a couple of half-rotted foundations, had disappeared.

In 1919 one of Roosevelt's biographers, Hermann Hagedorn, was taken to the Elkhorn site by Sylvane Ferris and A. W. Merrifield. He located the foundation stones of the ranch house and took photographs of the building area.

After the National Park Service acquired the property in 1947 Ray H. Mattison undertook to definitely locate and verify the exact site on which the Elkhorn ranch structures had been located. To do

this Mattison interviewed pioneer residents in the area, corresponded with many others, and by physical search sought to find the locale shown in photographs taken by Roosevelt and later appearing in Hagedorn's pictures. Mattison's successful work was reported in 1950.

By 1957 the National Park Service's Mission 66 expansion program had begun. A diorama of the Elkhorn Ranch was planned for inclusion in the new visitor's center which was to be built in Medora as a part of the Mission 66 program. Archeological information was needed to supply data for the display as well as to verify Mattison's location. Beaubien was given a limited time and few funds to find out the locations and relationships of the buildings.

Baubien's excavations, reported to the National Park Service in 1957, were partially successful. Within his limited time Beaubien had located the dugout and the blacksmith shop. He had found and excavated Roosevelt's famous circular horse corral, and he had uncovered part of what later turned out to be the barn. Beaubien's work indicated that more intensive archeological investigations were desirable, especially if reconstruction were planned. Other buildings were known to have been present. The barn could not be found, and the relationships of the features were far from clear.

Thus in 1959 further archeological research was authorized. This is reported here, and, we believe that it is now possible to visualize the entire original Elkhorn Ranch layout.

It is hoped that the next step will be reconstruction of these buildings.

CHAPTER IV

EXCAVATION PROCEDURES

Very little surface debris remained to mark the locations of the Elkhorn Ranch buildings. In keeping with the custom of the times ranchers who could use logs, lumber, or even whole small buildings simply took them from abandoned homesteads or ranches. That is undoubtedly what happened to the Elkhorn structures. In fact, Mattison found a couple of pioneer residents who had contributed to their disappearances. In 1949 Mr. William Neuens told Mattison that he had helped haul some of the original buildings away from their location. Mr. Henry Waltz stated that he "tore down the buildings, including the ranchhouse, and removed them from the ranch" (Mattison 1950, 24-25).

It seems quite likely that the barn and utility shed were burned, but it is possible that most usable timbers had already been removed before the fire. During the years since the ranch was occupied blow sand, grass and other plants have covered the ranch clearing. Nine large foundation stones, partially buried, marked the place where the ranch house had stood. In addition to the foundation the rock-lined well still remained, but it was choked with an accumulation of boulders, debris, and sand.

Beaubien's excavations enabled us to see outlines of the dug-out and the horse corral. The swathes made by his road grader were still visible, and we could see an occasional crumbling post butt exposed in these cuts.

In a sense our excavations at the Elkhorn Ranch site might be considered as an example of problem-oriented archeology. Our objectives were clearly defined. We were to find the subsurface remains of all the ranch buildings, outline, map and photograph them, and finally we were to mark each structure so that it could be easily relocated for future reconstruction. The search, i.e., finding the sites where former buildings had been located, presented us with our most difficult problem.

The Theodore Roosevelt collections included at least six photographs of the Elkhorn taken by the former president when he was at the ranch during 1885 or 1886. These pictures were invaluable, but also sometimes they were infuriating to a temporarily frustrated archeologist. Photographs showed us how the buildings had appeared and some of their relationships. Some trees were still recognizable. But distances were greatly distorted, and some photos showed only an isolated bit of the spread. However, the pictures were a constant check; every structure and fence post was referred back to the photographs and had to be made to fit into the scenes shown there.

At first we were able to procede from the known to the unknown as we exposed the buildings. A corral and the rectangular dugout showed in Beaubien's maps, and although he had not completely excavated it, Beaubien had already found the blacksmith shop for us. Foundation stones marked where the cabin had stood, and a shallow depression suggested where we should dig to find the cellar. ✓✓

Unfortunately we had no such clues as to the location of the barn and utility sheds--only pictures of isolated buildings with corrals or fences around them. The National Park Service had furnished us with a metal detector, and we diligently plodded back and forth

across the area north of the house. We reasoned that the barn should contain a clustering of nails, bits of harness paraphernalia, perhaps cans or other bits of metal that would register on the detector. We located and dug up dozens of isolated scraps of iron. Once we found a fairly large area that set our detector to buzzing. We were most enthusiastic until we discovered that we were outlining an area where a neighboring rancher had placed two salt cakes the preceding winter.

Another technique that we used in an effort to find the barn and outbuildings was the exploratory trench. In the case of the barn, when the trench encountered vertical posts it was extended outwards as far as necessary to include the whole structure. The trenches which were dug in an effort to find where the privy had stood revealed nothing, and these were extended until we had dug up most of the area north of the house. We never did positively locate the privy.

One other factor helped immeasurably in our attempts to outline the corrals. This was the fact that when Sewall and Dow laid out the fence lines they set vertical posts at almost exactly ten-foot intervals. Once we had established the pattern by uncovering a couple of posts we could predict where the next one would be. The only difficulty was at corners where fence lines turned off at an angle.

We located features by means of trenches, stopping or expanding the trenches whenever anything unusual was encountered. Our technique for excavating the buildings was essentially simply to peel off the overburden down to former floor levels, then later to cut down through the floors. The remains of most of the buildings, segments of foundation logs and floor surfaces, lay from four to eight inches below the current surface.

Within the ranch house, after we had cut through the cellar

depression, we were able to see where the cellar walls had been and were able to follow them down. In doing this we cleared out the fill within the cellar.

Our excavations uncovered crumbling pieces of the foundation logs in the blacksmith shop and house. In the cellar we found wooden flooring, partitions, benches, and heavy supporting beams and timbers. We made every effort to preserve the wood for photographs and to show to interested visitors. We tried various acrylitic and plastic sprays without much success and finally resorted to treating the wood with a solution of paraffin, melted in gasoline. The latter technique produced the most satisfactory results.

Mapping.--In 1957 Beaubien had established a base line between two big cottonwood trees. Iron pipes, sunk into the ground, marked the ends of the baseline (Drawing #NMP-TR 3043). Although this line did not run in a north-south direction, it was a convenient line of reference, and all of our maps were oriented from it. In using Beaubien's baseline I defined the south end at the base of a tree as my zero point and marked the line off into ten, twenty, or fifty-foot intervals as became necessary. Thus all of my features lay north of zero, i.e., so many feet out along the baseline. With the instrument and tapes we established one large grid system over the blacksmith shop and the cabin area. The grid was expanded as we found new features to map. In our grid system everything lay east of the baseline; I was able to designate easily the locus of anything in the site.

We ran a series of elevations over the site area. Except for the cellar depression (1.63 ft. deep) the river terrace was remarkably flat. The surface elevations varied less than a foot over the site area.

During the digging each day's excavations, along with items that we found, were plotted on a large scale (1 inch equals 5 feet) flat map.

CHAPTER V

THE STRUCTURES

In 1957 the Regional Archeologist fully excavated two structures and partially dug two others. In the discussion which follows most data about the dugout and the circular horse corral are taken from Beaubien's report (1957). Our excavations did not include either of these features. Beaubien's information on the blacksmith shop and what he called "the cowshed" supplements data from our own explorations and has contributed substantially to the following reconstructions.

The Dugout.--To the best of my knowledge there are no adequate descriptions of this building. The general outlines of Beaubien's excavations are shown in our map of the blacksmith shop area. Beaubien's photographs (NPS numbers 17020 and 17021) show details of the wall, and his map (NMP-TR 3043) shows the general relationships of the dugout to other buildings. The dugout is also shown in one of Theodore Roosevelt's photographs (Figure 2). This was the first structure to be built on the Elkhorn and was probably intended only as temporary housing.

According to Sewall's letters by August 25, 1884 Sewall and Dow had finished and moved into the "shack" or "the den." The men lived in this small one-roomed building during the following autumn and winter until the ranch house was finished in the Spring of 1885.

The room was dug into the sloping face of the river bank so that earth surrounded the walls on most of three sides. The one exposed

wall and the entryway were on the east facing the Little Missouri River. In his 1957 excavations Beaubien found the inside dimensions of the room to be 12 feet (north-south axis) by 14 feet (east-west). The walls were made of juniper or cottonwood logs. Timbers, that appear to have been between 8 inches and 1 foot in diameter, were set upright in the ground, one log flush against the next, to form the walls. One might conjecture that the inside surfaces of the walls were whitewashed with lime.

The entry doorway was 2 feet 6 inches wide and was set almost in the middle of the east wall (the distance from the inside northeast corner of the dugout to the door's edge was 4 feet 10 inches). It is impossible to say whether or not there were windows in the east wall; it seems likely that there were some to let in light.

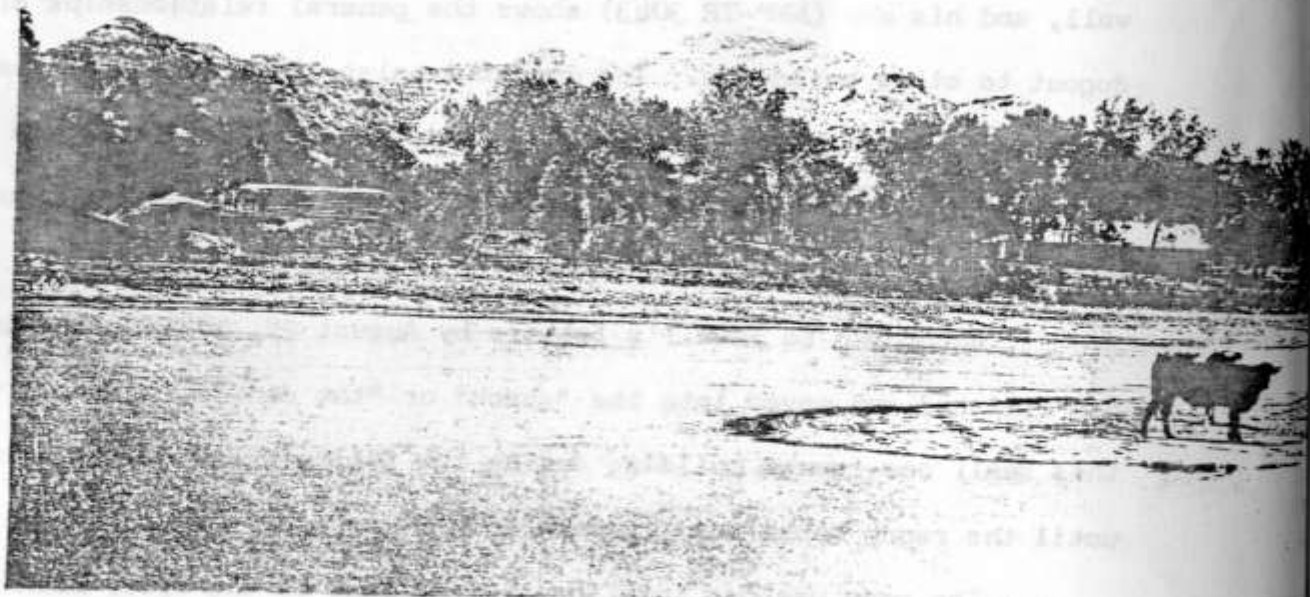


Figure 2.
Theodore Roosevelt's picture of the Elkhorn Ranch. Dugout and blacksmith shop appear on the left, the ranch house on the right.

In Roosevelt's photograph it looks as though the river bank had been buttressed against the eastern slope by horizontally-laid retaining logs.

The roof had a low gable and appears to have been supported by three main beams, two probably laid along the tops of the north and south walls and a center beam supported by vertically-set posts. The roof extended beyond the living space, forming an eave or overhang covering the doorway. The door is not visible in Roosevelt's picture, but it must be in the shadow behind the middle post. The roof appears to have been covered with sod or scoria.

We know nothing of the floor or interior furnishings. Undoubtedly there was a stove for heating and cooking, but it is not possible to see a chimney in the photograph. During his excavations Beaubien noted that the wall posts were rotted below the floor level but were charred and burned above.

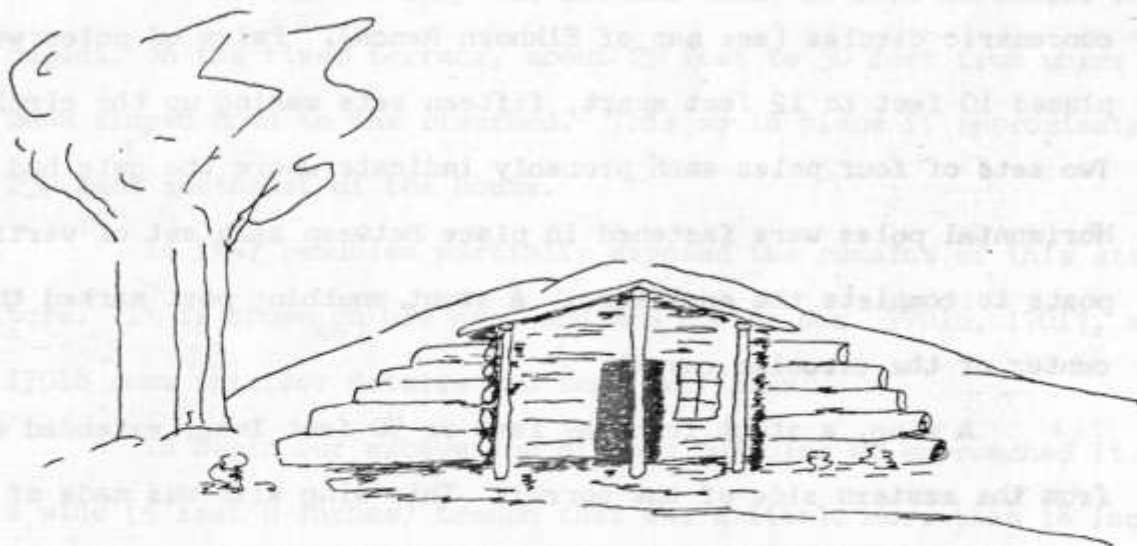


Figure 3.
Sketch of Dugout.

The Horse Corral.--

"...and near the middle of the glade stands the high, circular horse-corral, with a snubbing post in the center, and a wing built out from one side of the gate entrance, so that the saddle-band can be driven in without trouble." (Roosevelt 1899, 25-26.)

This feature was carefully excavated by Beaubien and is shown on his 1957 map. NPS Photograph No. 17006 shows the extent of the corral; photos 17007 and 17008 show details of some of the post arrangements. We have redrawn the corral to a different scale and included it as an insert in our general map of the Elkhorn layout.

The horse corral was located a little more than 100 yards southwest of the ranch house. It was almost a perfect circle and measured about 62 feet in diameter from outside post to outside post. The corral was built of long cedar posts that were between 5 and 7 inches in diameter. These poles were erected in pairs, the members of each pair set approximately 8 inches apart, so that they formed two concentric circles (see map of Elkhorn Ranch). Pairs of poles were placed 10 feet to 12 feet apart, fifteen sets making up the circle. Two sets of four poles each probably indicate where the gate had been. Horizontal poles were fastened in place between each set of vertical posts to complete the enclosure. A stout snubbing post marked the center of the circular corral.

A wing, a stout fence 49 feet or 50 feet long, extended out from the eastern side of the corral. This wing also was made of horizontally-laid poles that extended between the corral and each of three other pairs of posts. This line diverted the animals through a gate which appears to have opened out away from the wing. Beaubien recovered a portion of a gate hook in the earth adjacent to the set of four

posts where the wing joined the circle. This led him to speculate that the gate may have been of the swinging variety rather than one of sliding poles.

The reader is referred to Beaubien (1957) for greater detail on this feature.

The Blacksmith Shop.--Following Beaubien's terms we have called this building the blacksmith shop. It seems unquestionable that it sometimes served as such. Wilmot Dow served as the blacksmith at the ranch. However, Mattison points out that none of the Roosevelt papers dealing with the Elkhorn make any mention of a blacksmith shop. It is quite possible that references to the "cowshed" may refer to this building. I think that Mattison (1960, 21) may be in error when he suggests that the building shown in Theodore Roosevelt's photograph (Figure 22) lying east of the stable and corrals is "the cowshed."

The blacksmith shop was located about 26 feet northwest of the dugout, on the river terrace, about 25 feet to 30 feet from where the bank sloped down to the riverbed. This would place it approximately 230 feet southeast of the house.

In 1957 Beaubien partially exposed the remains of this structure. It is shown on his map, and NPS photos Nos. 17016, 17017, and 17018 show interior details and some artifacts.

To begin our excavation of this building we approached it with a wide (5 feet 6 inches) trench that was a little more than 18 inches deep. This was our first digging; we were more enthusiastic than cautious, and this trench cut through the northwest corner of the blacksmith shop before we were really aware of it. We found that the only things left to mark the outline of the building were the remains of

horizontally-laid timbers. The wood was crumbly and rotten, not over 2 to 3 inches thick. It lay in the sand from 3 to 6 inches below the current surface. The wood probably was the remnants of old wooden foundation logs, but these timbers may have been pulled out of line, for there were jogs in the walls. Some slight irregularities in the outlines of these foundation logs may be due to our excavations. We were able to completely outline the blacksmith shop by following the base logs around. Measurements of outside dimensions of the blacksmith shop were as follows:

	<u>Beaubien's 1957 excavations</u>	<u>1959 excavations</u>
West wall	33 feet 9 inches	33 feet
East wall	33 feet 4 inches	32 feet 8 inches
North wall	15 feet 9 inches	16 feet
South wall	14 feet 11 inches	16 feet 9 inches

The outlines of this building are shown in our map of the blacksmith shop and in Figures 4, 5, and 6.

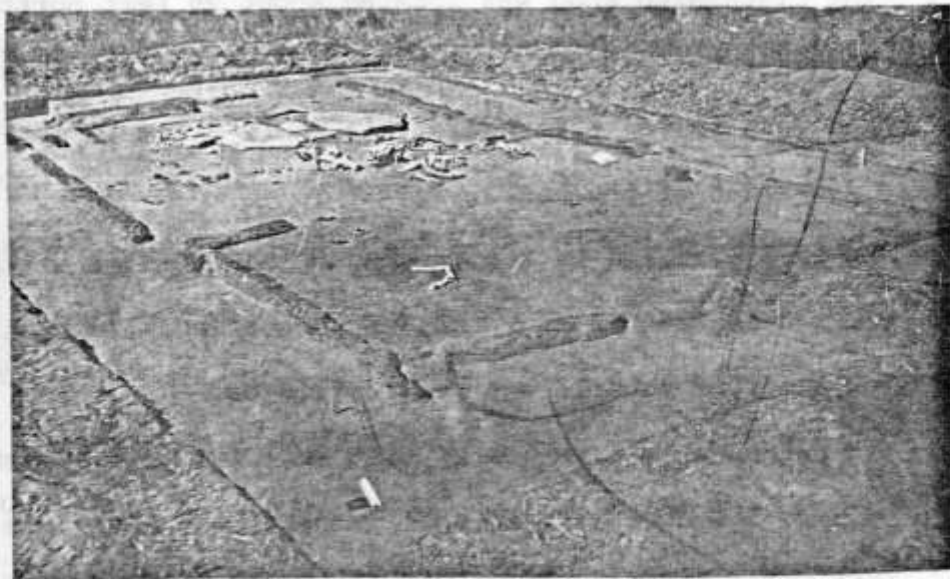


Figure 4.
View of the blacksmith shop from the south. Note fragment of partition log. South room in foreground. We think that the break in the south wall is from 1957 excavations. The unexcavated block on the right foreground was left to tie our excavations in with the surrounding area.

Four levels were visible in the fill material inside the building. The topmost 3 to 4 inches was dark brown or black top soil. This sandy humus layer contained many roots, small pieces of wood and leaves. Below the humus there was a layer of variable thickness, ranging from less than 2 inches thick against the walls to almost 8 inches thick near the middle of the building where it made a visible hump. This layer was a hard brownish buff-colored clay, and it contained a lot of wood. I conjectured that this material was derived mostly from a collapsed roof. Immediately below the clay lay a thin ($\frac{1}{2}$ inch to 1 inch) discontinuous band of dark brown-colored sand. This level appeared to blend into the floor in places. The old floor surface was not well marked, but during excavation we were able to feel a definite cleavage plane. Some roots had matted along the floor surface, but the underlying material was a fine soft brown-colored sand. The surface was slightly compacted, but it was debris, bones and iron scraps, lying on the floor that really indicated where it had been. Below the floor clean buff-colored sand extended down for at least another 18 inches.

When Beaubien dug the blacksmith shop he noted that it had been divided into two rooms, a small southern room about 10 feet by 14 feet 6 inches, and a larger northern work room which measured about 20 feet 6 inches long by 14 feet 6 inches, and a larger northern work room which measured about 20 feet 6 inches long by 14 feet 6 inches wide. This division of the shop into two rooms is borne out by Theodore Roosevelt's photograph which shows a row of logs, apparently the ends of a partition, in the east wall. During the 1959 excavations we were able to find only small fragments of the logs in this partition.

We found many broken red bricks and pieces of mortar within

the blacksmith shop. No brick was whole, but I believe that they measured $3 \frac{3}{4}$ inches wide, $2 \frac{1}{2}$ inches thick, and 8 inches long. Most of the brick and mortar was clustered around the large stones that lay in the northern half of the building. Beaubien referred to these as a "flagstone floor," but from their position I rather think that they were rocks which supported the forge and anvil. These stones are shown in Figures 4, 5, and 6. They are numbered and drawn to scale in our map of the blacksmith shop. All of these stones were fine-grained, pinkish-red colored sandstone. Their thicknesses were as follows: Stone #1, $\frac{1}{4}$ inches maximum thickness, $1 \frac{3}{4}$ inches minimum thickness; #2, $1 \frac{7}{8}$ inches to 2 inches thick; #3, $1 \frac{1}{2}$ inches; #4, $2 \frac{7}{8}$ inches to 3 inches; #5, $1 \frac{3}{8}$ inches thick; #6, $\frac{15}{16}$ inches to $1 \frac{1}{16}$ inches; #7, $2 \frac{7}{8}$ inches; #8, $3 \frac{1}{2}$ inches thick. The brick and mortar undoubtedly came from the forge and chimney.



Figure 5.
View of the blacksmith shop from the north. The north entryway, bin, and forge stones are easily visible. Note cow skeleton.

The butt ends of two vertical posts were set 3 feet out from the western wall, and two large pieces of plank (containing many nails) lay parallel to that wall in the northwest corner. I suggest that this was the remains of a long workbench which was set flush against the west wall and extended out about 12 feet from the corner.

The remains of a small bin lay against the northern wall, one end against the work bench (see Figure 6 and map). Only a bit of the bottom board was intact across the front of the bin. The board was planed; it was an inch thick, and was set edgewise as though nailed to uprights. The bin was 24 inches to 25 inches wide. I am unable to say exactly how long it had been because Beaubien's 1957 trench cut through one side, but it was at least 4 feet. Neither can one say how deep the bin had been. It contained approximately 8 inches of debris above floor level. Contents of the bin were very interesting. The topmost material was a 5-inch thick mounded accumulation of ashes and clinkers, certainly refuse from the nearby forge. This lay over a matted mass of small seeds. These were a little larger than tomato seeds; hot ashes had scorched some of them. We had three separate botanists examine the seeds, and we received three different identifications. I had not been able to see any evidence of rodent activity in the bin and was therefore a little reluctant to accept the theory that a rat had accumulated a hoard of wild licorice seeds. The United States Department of Agriculture Seed Laboratory in Beltsville, Maryland identified our material as buffaloberry, Shepherdia argentea. Fruits of the silver buffaloberry are described as edible, sour, and were highly esteemed for making jelly and preserves. Ray Mattison, National Park Service Historian for Region Two, informed me that, although none of the correspondence from

the Elkhorn mentioned the making of buffaloberry jelly, it was (and still is) a common practice in North Dakota and Montana. I have since tasted buffaloberry jelly; it is tart and quite delicious. Evidently Mrs. Sewall and Mrs. Dow had made buffaloberry jelly at the ranch, perhaps even in the blacksmith shop, and discarded the seeds in the bin.



Figure 6.
View of the blacksmith shop from the east showing the forge stones, the bin; artifacts, bones and bricks on floor.

The sandy soil immediately adjacent to the blacksmith walls contained large quantities of wood. For a time I thought that the wood may have come from the roof, but closer examination revealed that the wood was really chunks of cottonwood bark. In some instances the bark formed a layer 2 to 3 inches thick. Likely the bark had been deliberately spread about the building to make the underfooting more firm. Large areas of bark were noted along the outside of the east, west, and north walls.

We recovered fragments of glass and part of a window frame from off the floor near the west wall. These suggested that windows were present along the western side.

An item that provoked considerable speculation was the almost complete skeleton of a cow in the north room. The skull was missing; perhaps coyotes had drug it off.

Beaubien found a piece of cutter blade in the northeast corner of the shop, indicating that Roosevelt had a mowing machine at the Elkhorn. Other artifacts that we recovered off the floor included horseshoes, an oar lock, hook, nails, cans, and numerous pieces of iron. Some artifacts had worked down into the sandy floor. The artifacts which we recovered from the blacksmith shop are listed in Table 3, page 71.

Reconstruction: How the Blacksmith Shop Looked.--Roosevelt's photograph taken around 1885 or 1886 (Figure 2) shows both the east and southern sides of the building. Unfortunately the picture was not intended to furnish us with the detail we would like, and as an archeologist trying to visualize the past I have nearly developed eye strain trying to make out all of the things shown. From an intensive study with a magnifying glass I think I can see something like this: There are no doors or windows along the east side. Ends of logs make a vertical line in the wall, apparently marking the wall which divides the shop into two rooms. The eastern wall of the northern room is solid, but it appears that in the smaller southern room logs extend only about half way up the wall, leaving the top open. I believe that there is an ordinary-sized door near the southeast corner opening through the south wall into the smaller room. This door is barely visible in the photograph. There

is no archeological evidence to indicate its presence.

The photograph also shows what seems to be a rectangular brick chimney. The position as shown corresponds to the location of the forge stones in the northern room.

There are no guides to tell us how the west and north sides of the blacksmith shop appeared, and my sketches (Figure 7) are conjectural to some extent. We found glass and a bit of window frame near the wall, thus it seems safe to assume that there were one or two windows along the west side. If our interpretation of the southern room as quarters for animals is correct, then there must have been a fairly large door into that room along the west side. Our foundation log in that wall was not present in one spot, next to the partition (see Figure 4). We found no threshold or door framing, but possibly the break represents a narrow door (22 inches wide) into the northern room. I'm not sure whether or not Beaubien's 1957 excavations extended into this area, but I rather think not.

I have shown a window in the northern wall because it seemed reasonable that one should be there. There is no archeological evidence of its presence. The foundation log was not intact in the northeast corner of the north wall (Figure 5). This area was partly disturbed by the 1957 excavations, but Beaubien mentions that he had to estimate where the walls had been. Likely the wall was not present then. It may be that there was a wide ($3\frac{1}{2}$ feet) door through the north wall where animals could be led in or out of the shop.

Inside the blacksmith shop the forge and chimney dominated the northern room. If we are correct, a broad work shelf extended along the western wall. This must have held tools and supplies. A slag and ash bin rested against the north wall well away from the door. There

must have been a doorway between the two rooms through which horses were led to the smithy.

The southern room with the partially open eastern wall seems to have been a small stable. We found no signs of a manger or feed bins, but perhaps one or two milk cows were kept there.

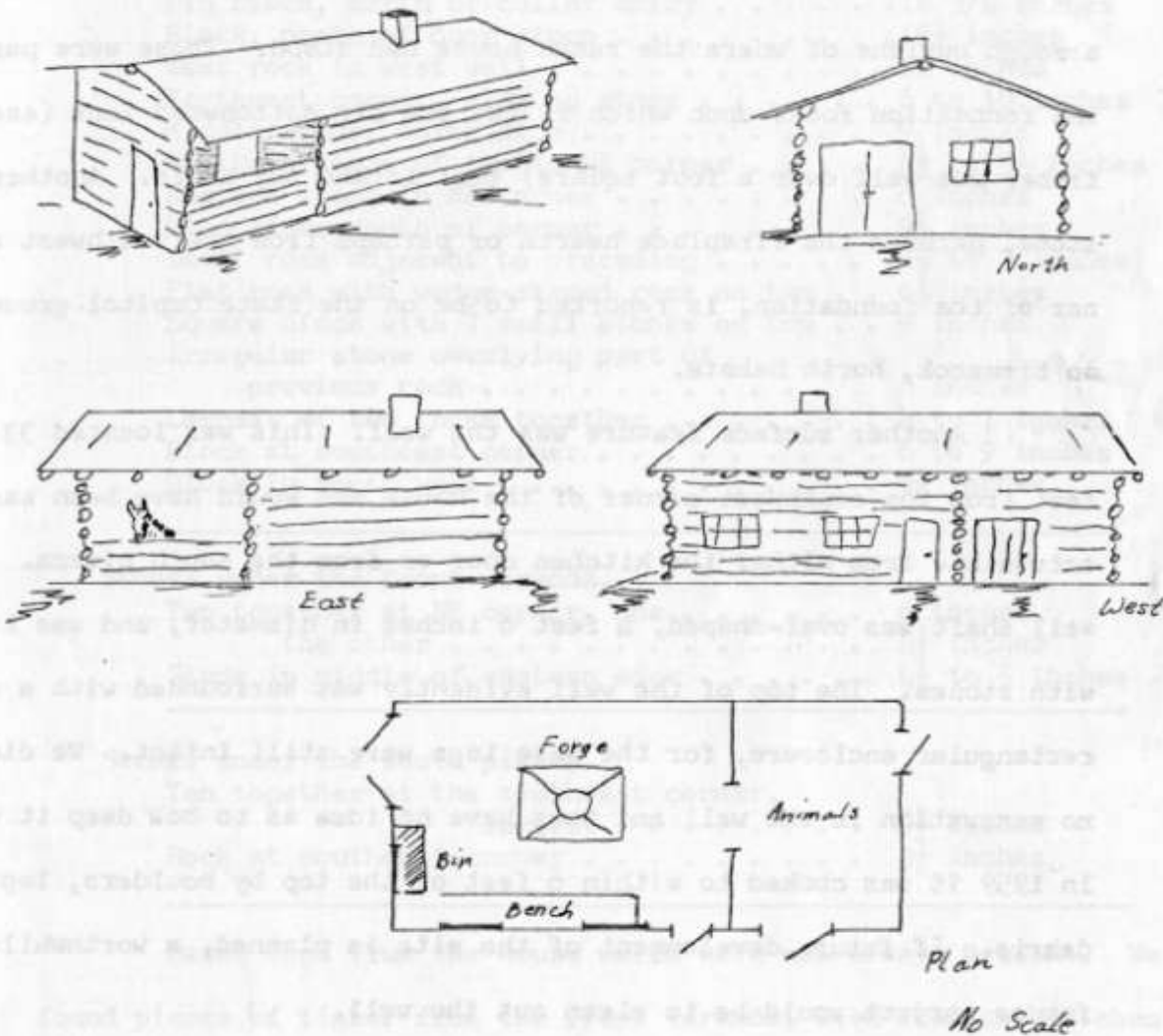


Figure 7.
Sketches of the blacksmith shop.

The House.--The general location of the Elkhorn Ranch house in relationship to the blacksmith shop and dugout is shown in Roosevelt's photograph (Figure 2). The cabin was set back on the river terrace, about 70 feet west from the river bank, among towering cottonwood trees. Its position relative to the other Elkhorn buildings is shown in our general map of the ranch.

Nine sandstone boulders were still partially visible and formed a rough outline of where the ranch house had stood. These were part of the foundation rocks upon which rested the big cottonwood logs (each timber was well over a foot square) that formed the walls. Another stone, perhaps the fireplace hearth or perhaps from the southwest corner of the foundation, is reported to be on the State Capitol grounds in Bismarck, North Dakota.

Another surface feature was the well. This was located 33 feet from the southwest corner of the house and would have been easily accessible from either the kitchen door or from the south piazza. The well shaft was oval-shaped, 4 feet 6 inches in diameter, and was lined with stones. The top of the well evidently was surrounded with a small rectangular enclosure, for the base logs were still intact. We did no excavation in the well and thus have no idea as to how deep it was. In 1959 it was choked to within 6 feet of the top by boulders, logs, and debris. If future development of the site is planned, a worthwhile future project would be to clean out the well.

As part of our excavations in the house we peeled off 3 to 6 inches of topsoil in a fashion similar to that which we had done in the blacksmith shop. Our concern here was to outline all the foundation stones and determine where the porches and door stoops had been. I

believe that we exposed all foundation boulders except for one missing out of the southwest corner. These fine-grained sandstone blocks are all drawn carefully to scale on our map of the house area. They varied in color from a grayish-light yellow, through buff and orange, to deep red. Beginning at the southwest corner, where there was no stone, and moving clockwise around the house the stones had these thicknesses:

Small stone just south of cellar steps . . .	$3\frac{1}{2}$ inches
Big block, north of cellar entry	$16\frac{3}{4}$ inches
Block, north of door stoop	$15\frac{1}{2}$ inches
Next rock in west wall	12 inches
Northwest corner, sloping stone	6 to 10 inches
Middle stone, north side	9 inches
Northern stone of two in NE corner	$4\frac{1}{2}$ to $5\frac{1}{2}$ inches
Eastern stone in NE corner	6 inches
Long stone south of corner	$9\frac{1}{2}$ inches
Small rock adjacent to preceding	$2\frac{1}{2}$ to 3 inches
Flat rock with wedge-shaped rock on top . .	$6\frac{1}{2}$ inches
Square block with 7 small stones on top . .	9 inches
Irregular stone overlying part of previous rock	6 inches
Largest of two rocks together	4 to 7 inches
Block at southeast corner	6 to 9 inches
Block in south wall	$7\frac{1}{4}$ inches

Stones under the front veranda.

Two together at NE corner, one	6 inches
the other	$4\frac{1}{2}$ inches
Stone in middle of eastern edge	$4\frac{1}{2}$ to 5 inches

Stones under the south piazza.

Ten together at the southwest corner, largest	$5\frac{1}{2}$ inches
Rock at southeast corner	$3\frac{1}{2}$ inches

Basal logs from the house walls were not always present. We found pieces of timber from the front veranda, wood from the kitchen door stoop, and part of the framing jamb for the outside entryway into the cellar. Otherwise only fragments of timbers remained from the north and west walls. Along the house's northern side one foundation stone had been laid upon a log. On this log too, we discovered many deer bones

and an elk antler. Figure 8 shows the house after excavation.



Figure 8.
Overall view of ranch house looking north. Note foundation stones and pieces of logs.

Our main project inside the house was the excavation of the cellar to determine details of construction and find out what was there. Mrs. George Harmon, daughter of W. W. Sewall, informed Mattison (1960, 19) that Theodore Roosevelt had used the cellar as a darkroom where he processed his photographs.

We began excavation in the cellar by digging a trench across the eastern edge of the depression. The walls of the trench were expanded later as we encountered things.

Within 6 inches of the surface our trench encountered a broad area of broken bricks and mortar rubble. Most of the ruined masonry lay in one thick band (8 to 10 inches), but frequently pieces of brick extended down into the underlying sand for as much as $3\frac{1}{2}$ feet farther. This rubble and the sand just below it contained pieces of wood, nails, a shoe, bits of cloth, a piece from a pair of suspenders, and tin cans.

Part of the debris is shown in Figure 9, and it appears on the top overlay on our map of the house area. The brick and mortar undoubtedly was from a chimney or fireplace.



Figure 9.
View, looking towards the north, of the brick and mortar rubble from the chimney. Part of this material has been cut away in the foreground.

In the northern end of our trench we encountered a perpendicular clay line. The sand on one side of the line was soft and loose; on the other it was much harder, lightly cemented and seemed to be a little more gray-colored. When we expanded the sides of our trench we were able to see the outlines of a narrow corridor, and the loose fill inside this almost fell away from the sides as we began to clear it out. The trench was deepened and extended until we could see almost the whole passageway. At the north end it ended against a pair of vertical cedar poles set 24 inches apart. The poles were 3 inches and $3\frac{1}{2}$ inches in diameter. A few cross pieces of wood, rungs in a ladder, were nailed to the

posts and, where these were gone, some nails were usually still present. We later discovered that the passageway led into Roosevelt's darkroom.

The fill in this corridor contained much debris. We found many pieces of broken boards at different levels. One board sloped steeply downward and had a hinge on it. Most of the wood had nail holes in it.

We also found such items as tin cans, nails, a mountain sheep skull, a coyote skull. Many of these items are visible in Figure 10 which shows the passageway shortly after we began to remove fill.



Figure 10.

A view of the north end of the passageway into the darkroom. Note cans, boards, and bone material in the fill; also bricks from a collapsed chimney.

As we moved down through the passageway we encountered more bricks and finally a portion of the chimney flue, about $3\frac{1}{2}$ feet long. Mortar and bricks were still intact, soot-blackened on the inside. Apparently the chimney had toppled sideways across the corridor. A round piece of metal, similar to that where a stove pipe might be inserted,

was in the flue. Perhaps this was a clean-out at the bottom of the chimney. The four layers of brick and mortar which would have been at the base, i.e., probably resting on the ground, were covered with red pigments. This feature is shown in Figure 11.



Figure 11.

A view of the chimney flue collapsed across the passageway into the darkroom. Note the crumpled metal insert in the bricks just above the bone in the foreground.

Since we found no complete bricks (a complete brick measured $3 \frac{3}{4}$ inches by $2 \frac{1}{4}$ inches by 8 inches) in the upper debris, it seems reasonable to assume that the higher part of the chimney or fireplace was dismantled for the bricks. However, the chimney had collapsed before the major part of the debris accumulated in the passageway, and the brick-mortar rubble was 15 inches to 18 inches higher up.

In the southern section of our trench we encountered much wood debris under the brick and mortar. Some of this was from large timbers, perhaps even floor joists. In this area, too, we were able to see zones of slight color difference and feel a definite change in

texture of the clay and sand. By following this we were able to delineate the wall all the way around the cellar.

A row of four cedar posts had boards nailed across them to form a partition. This divided the cellar into two rooms--a small eastern room, narrow and roughly rectangular in shape, and a larger room on the west.

Within the outlines of the cellar and passageway we worked our way down through the sandy fill by means of a series of levels. We carefully preserved vertical posts and other features. As we were doing this we encountered a nearly continuous layer of wood overlying the eastern half of the cellar. This wood, broken and slumped, appeared to be the remains of a ceiling, one end of which had rested on the eastern edge of the cellar wall and the other end on top of the dividing partition. This is shown on the second overlay on our map of the house. Another lower level of boards extended across the southern end of the narrow room. This may have been a workbench. (see Figure 12)

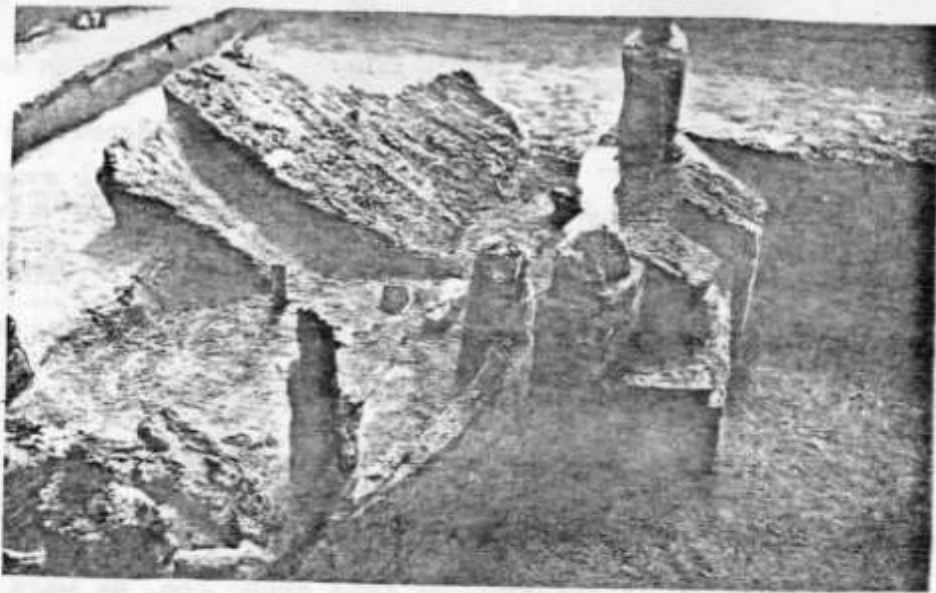


Figure 12.
Looking into the cellar during excavation, facing south. View to show levels of wood in darkroom.

Our procedure was simply to remove fill debris, noting locations of features and artifacts, until we had exposed the whole cellar. There was no question but that we had the original walls. In some places they were lightly stained, and roots had followed part way down them. The excavations finally revealed a fairly large basement, measuring about 12 feet by 12 feet. The walls were rounded so that there were no sharp corners. This was especially the case in the western cellar. The cellar was divided into two separate rooms, the western cellar approximately 12 feet by 6 feet and a small narrow cubicle (we soon began calling this the "darkroom") that was 4 feet wide and 11 feet long. The partition was made of boards that were nailed horizontally across the four vertical posts. (Diameters of the posts from north to south: 6 inches, $3\frac{1}{2}$ inches, $3\frac{1}{4}$ inches, $3\frac{3}{4}$ inches.) Narrow boards were nailed over the cracks where partitioning boards met, forming an overlap. This seemed to be a measure taken by Roosevelt to keep light out of the small photographic laboratory. The two rooms appeared to be separate and distinct entities with no means of going from one directly into the other.

The western cellar seems to have been a storage room. It was entered from outside the house through a framed door that lay just above ground level. The timbers used in the frame were large, 3 inches thick by $5\frac{1}{2}$ to 6 inches wide and over 6 feet in length. Similar outside cellar entrances were still in use in neighboring ranches in 1959. The door lifted up, then one went down eight steps into the cellar. Six of the eight steps remained, and we found a cross beam, maybe part of the door frame, spanning a couple of steps under the house. The steps extended out into the room for nearly 3 feet from the curved wall. A section of

wooden flooring (1 inch by 6 inches boards nailed to three cross beams) lay at the foot of the steps and covered most of the cellar area. The flooring measured 7 feet 6 inches by 5 feet 5 inches and once was painted white. When we took up this floor we recovered an 1883 Indian-head penny under it. The northern wall inside this room was made of boards. These were nailed vertically to the end of the flooring. One side of this wall fit flush against the partition, the other fit into a slot cut into the clay on the west. The eastern wall was the partition; horizontal boards had been nailed to the posts on this side. Where the ends of the boards came together on the uprights, narrow strips of wood had been nailed, apparently to make a light-proof seam.

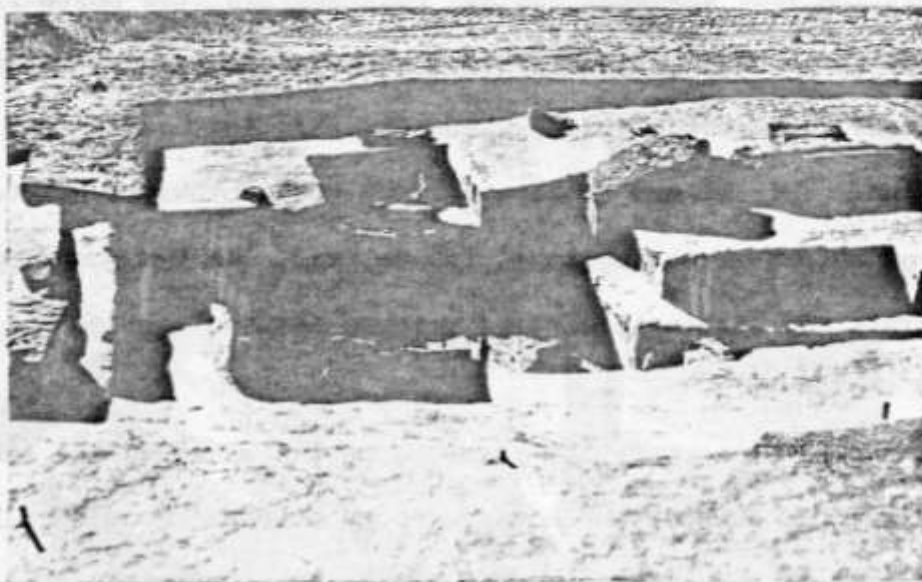


Figure 13.

Facing west. An overall view of the cellar to show the two rooms, the entryways, partition, and floor in western room.

A large flat stone lay on the floor just south of the bottom step. This buff-gray-colored sandstone is drawn to scale on our map of the cellar. It was $4\frac{1}{2}$ inches to $4\frac{1}{2}$ inches thick. The top surface was marked by a circular ($21\frac{1}{2}$ inches diameter) stain. This probably was

caused from a barrel or crock that rested on the stone. This is shown in Figures 13 and 15. The remaining part of the floor in the west room was of earth. This part of the cellar must have had cupboards, shelving, and bins for storage.



Figure 14.

Across the cellar looking northwest. This view shows the flooring, steps, partition, part of entry detail into the darkroom. Collapsed chimney shows in upper right corner.

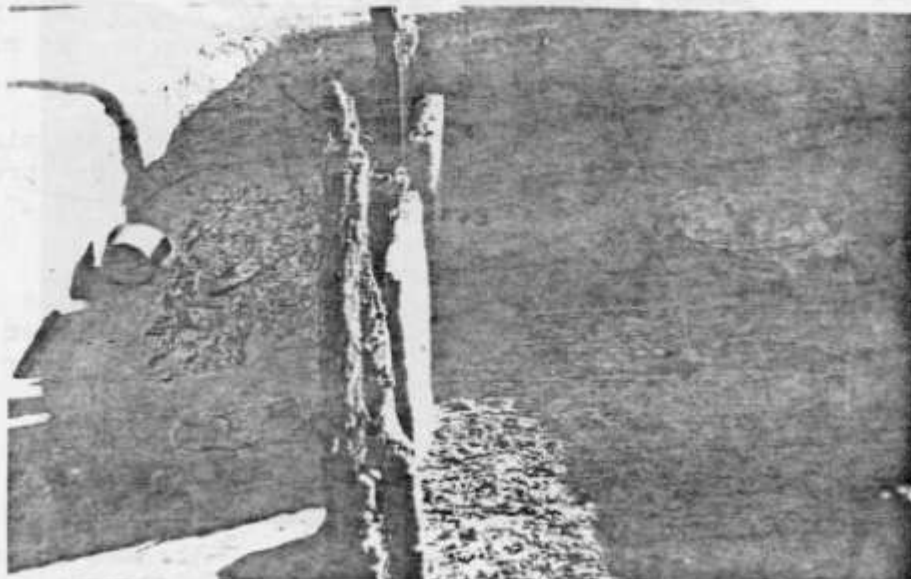


Figure 15.

View of both rooms in the cellar looking south. Note flooring. The flat stone on the observer's right has a circular stain visible on its top.

Details of the entry steps into the west cellar room are summarized in Figure 16.

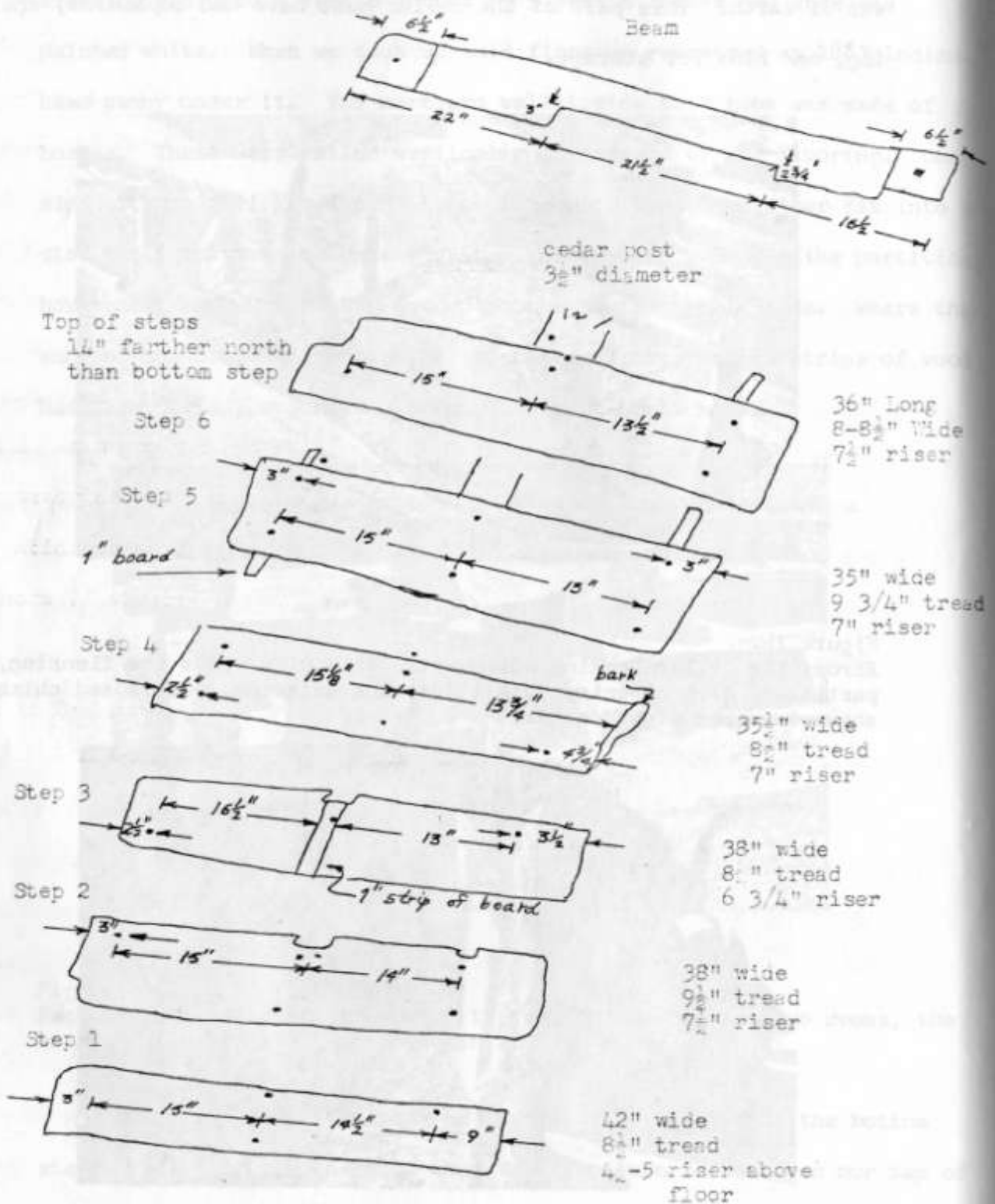


Figure 16.

The darkroom was entered from inside the house, probably through a trapdoor in the kitchen floor. The descent was down a permanently-placed ladder. Vertical posts from this ladder still had fragments of cross pieces and nails intact, and we could easily see where others had been. The base of the ladder was set on a board, presumably so the butt ends wouldn't sink into the sandy earth. At the bottom of the ladder a passageway (2 feet 6 inches wide) led towards the darkroom. Two vertical boards set against the sides may be from a door frame (we found a piece of wood with a hinge on it in the fill) that closed off the passageway a little more than two feet from the ladder. Immediately beyond the door (if there was one) the corridor opened out to 3 feet in width, and about 2 feet 6 inches farther on there was a single step down. A board (1 inch by 12 inches) had been laid across the floor of the passageway. Possibly the board was to keep the edge of the step from crumbling as it would have done if it were only on sandy earth. Figure 17 shows this entryway.

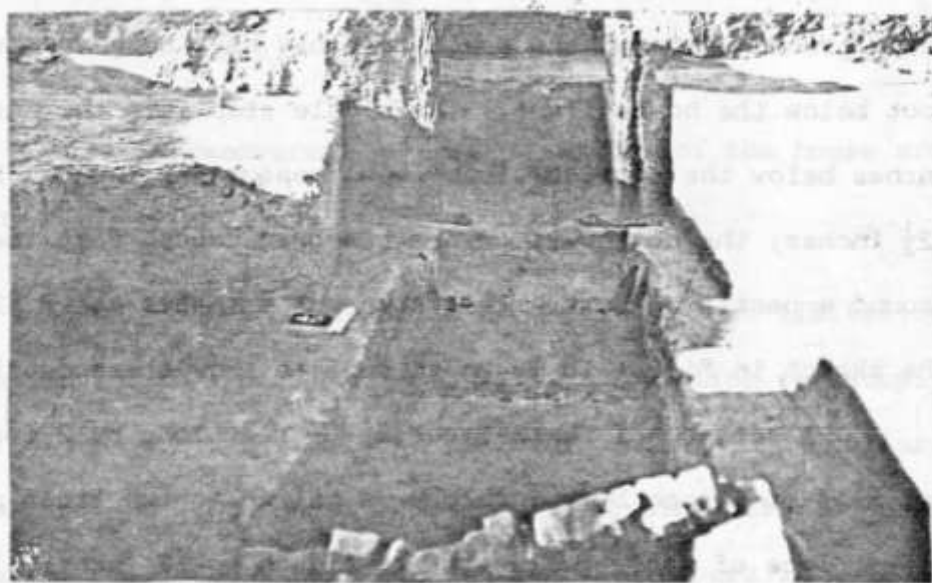


Figure 17.
Camera facing north. A view of the entry into the darkroom during excavation. Vertical posts were from the ladder. Note remains of vertical boards on side and step. Bricks in immediate foreground are part of collapsed chimney.

Six and a half feet beyond the step the corridor entered into the main cellar, and at that point a narrow (18 or 20 inches wide) vertical partition extended obliquely out from the clay wall. This partition seemed to have been fit into a slot cut into the earthen wall. These boards would have made it difficult or impossible to get into the cul de sac behind the north wall in the storage part of the cellar, but perhaps its real function was to act as a light baffle when the darkroom door was opened. Just beyond the light baffle, but on the same level, another board (1 inch by 11 inches by 41 inches) lay across the floor of the passageway. Vertical boards which formed a divider and door-frame were nailed into the edge of this step. Along the passage's western side these boards were nailed to a vertical post; along the eastern edge the boards fit into a slot cut into the earthen wall. This doorway into the darkroom was 22 or 23 inches wide. As one passed through the door it was necessary to take two steps down to the floor level in the photographic laboratory. This floor was 7 feet 9 inches below ground surface, and would possibly have been another 6 inches to a foot below the house floor. The middle step into the darkroom was $9\frac{1}{2}$ inches below the corridor. The wood measured 1 inch by 11 inches by $42\frac{1}{2}$ inches; the northwest corner had been cut so that the step fit around a partition post. This step was 5 inches above floor level. The sketch in Figure 18 is an attempt to show these details.

A section of board flooring (5 feet long by 2 feet 6 inches wide) was made of 1 inch by 4 inch boards nailed to two cross pieces. Another piece of wood, a fragment of 1 inch by 12 inches, lay on the floor.

I think it likely that the darkroom had its own ceiling, but I doubt that this was the case in the cellar storeroom. A wide workbench

probably extended from wall to wall in the southern end of the photo lab. A large strip of zinc, perhaps photographic equipment, was found associated with the wood of the bench top.

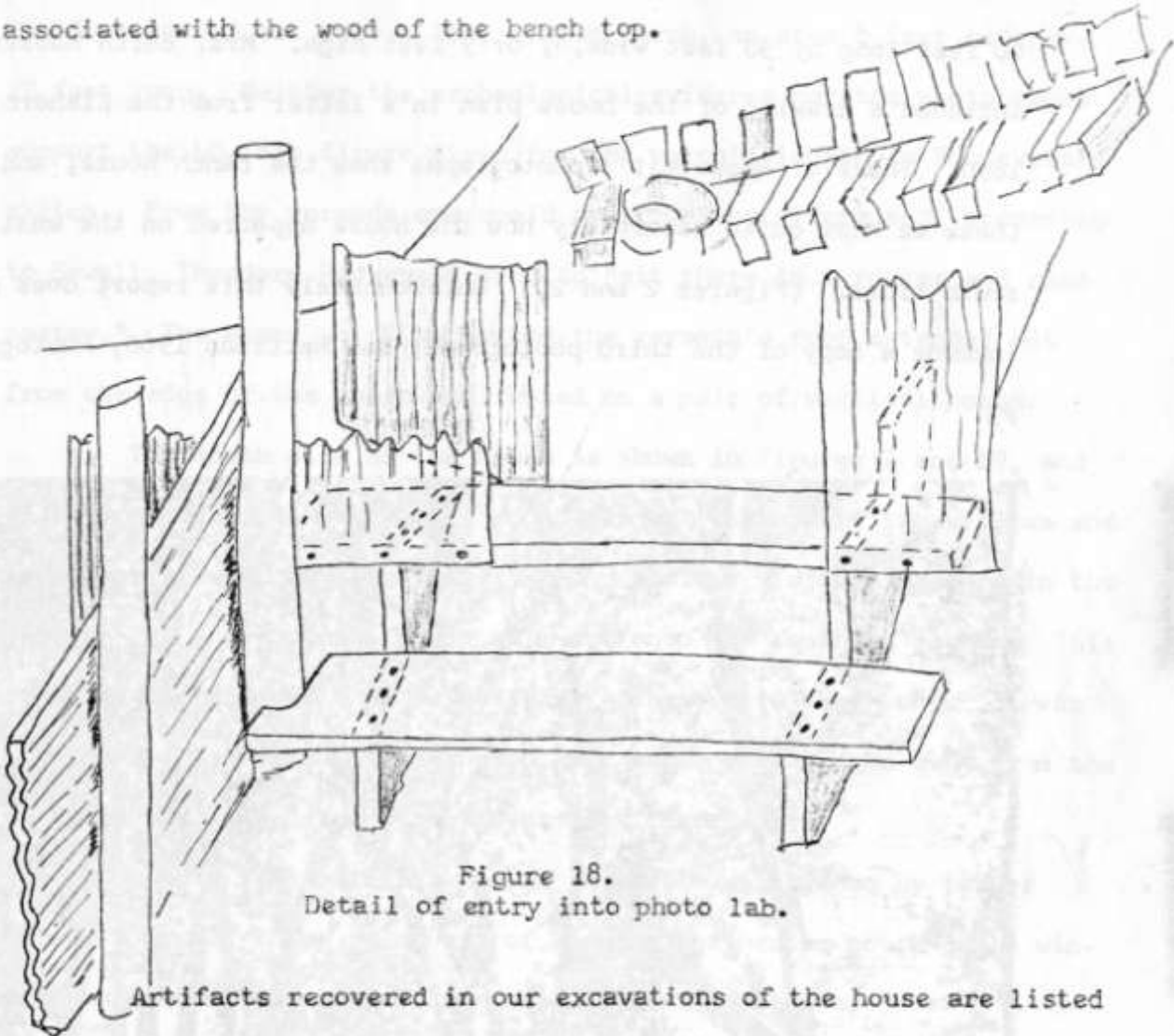


Figure 18.
Detail of entry into photo lab.

Artifacts recovered in our excavations of the house are listed in Table 4, page 82.

Reconstruction of the House.--There are some limitations as to what one can do with archeological data. Excavation can supply details such as where the porches were located or even what the cellars were like, but it can only furnish clues as to missing details on the room plan and the interior of the house. Sewall's papers in the Cunningham Collection (Island Falls, Maine) contained sketch plans for the house that seem to have been made by Theodore Roosevelt (Mattison 1960,

Photograph #7). Fortunately we have a few written descriptions of the ranch house. William Sewall (1919, 18-19) said that the house was 60 feet long by 30 feet wide, 7 or 9 feet high. Mrs. Edith Roosevelt included a drawing of the house plan in a letter from the Elkhorn in 1890. Three of Roosevelt's photographs show the ranch house, and from these we know quite accurately how the house appeared on the east and south sides. (Figures 2 and 20) Unfortunately this report does not include a copy of the third photograph; see Mattison 1960, Photograph #3.



Figure 19.

A photograph taken by Theodore Roosevelt of the Elkhorn ranch house, later than 1885, possibly in 1892.

Along the east side of the house the wall was cut by six windows and a door. Two windows were south of the door, four north of it. The door opened out onto a low, roofed porch, an area 8 feet wide by 22 feet long. Neither the archeological evidence nor the photographs support the 40-foot figure given for the porch's length in Roosevelt's sketch. From the veranda one could overlook the river, and, according to Sewall, Theodore Roosevelt used to "sit there in a rocker and read poetry." The beams which supported the veranda's roof extended out from the edge of the cabin and rested on a pair of vertical posts.

The south side of the house is shown in Figures 1 and 19, and it also appears in Roosevelt's rough plans. There were two windows and a door at ground level on this side and another window higher up in the gable. The door opened from a hall out onto the southern piazza. This latter structure was 8 or 9 feet wide and about 14 feet long. It was covered by an overhanging shingled roof which sloped down away from the house and was supported by posts at each corner.

Likely the northern wall of the house was broken by two or three windows. There is no way of knowing whether or not a gable window was present as well, but I would guess that it was.

According to Roosevelt's sketch plan there were 5 windows and one door along the house's western side. Roosevelt shows the back door stoop as 6 feet wide by 10 feet long; actually it seems to have been only about 4 feet by 8 feet. There was nothing to indicate whether or not the stoop was roofed over. I rather think not but don't really have any reason for saying so. One other feature along the west side was the outside entryway into the cellar. This was set against the wall. The doorway was framed by timbers and measured about 6 feet by 4 feet.

In the sketches of the Elkhorn which follow (Figure 20) I have

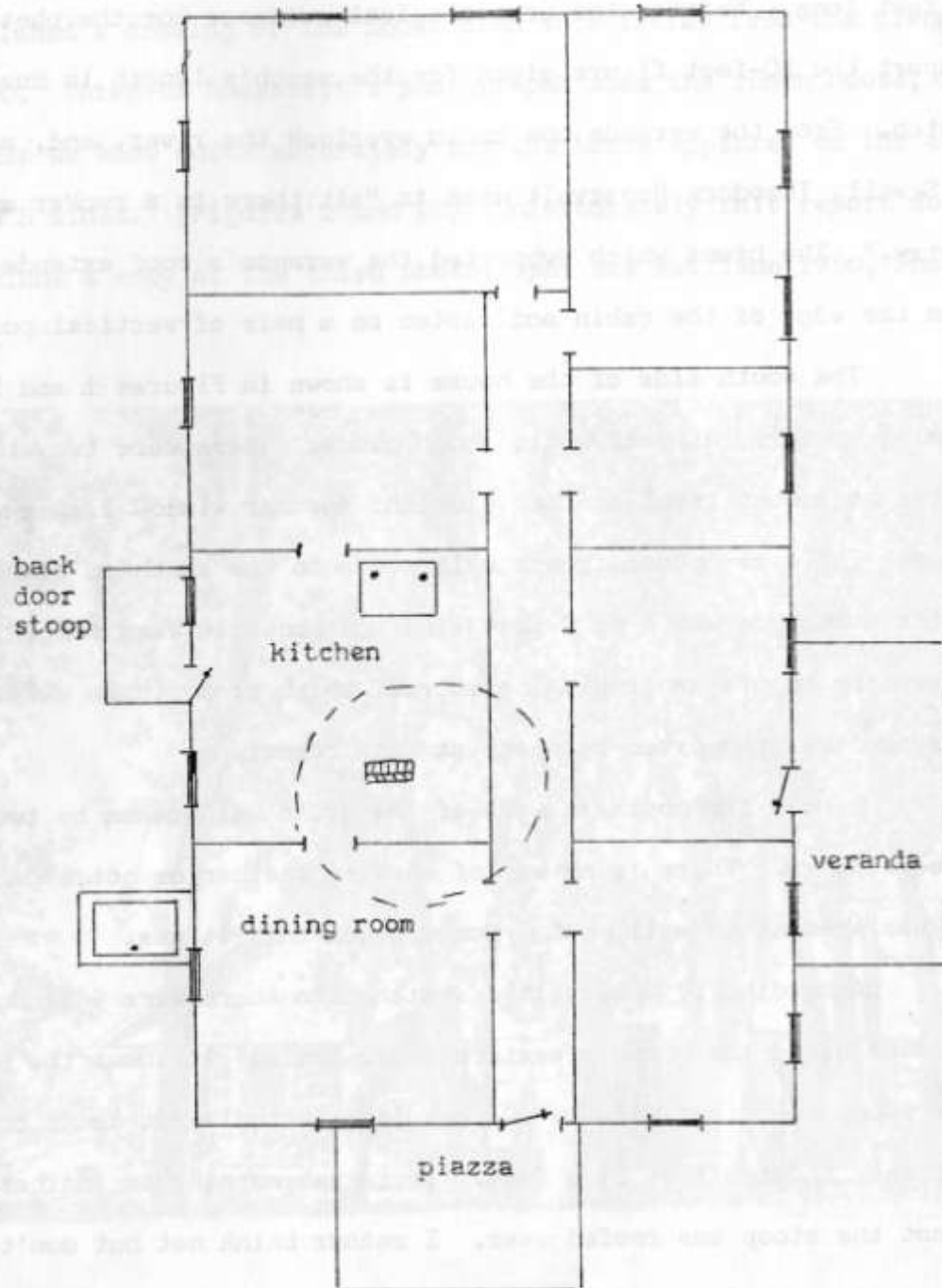


Figure 20.

Floor plan of ranch house. Cellar entrances and position of chimney shown.

utilized all resources available to me, and they are as accurate as I could make them. The outlines of the cabin, porches, door stoop, and the entryways into the cellar were determined by excavations and are reasonably correct. Locations of doors and windows are only approximations determined from photographs and drawings. The interior house plan is partly deduction and partly reasoned conjecture. Both Mr. and Mrs. Roosevelt's sketches agree on the location of the kitchen. We considered it likely that the entryway into the darkroom would be in that room. Also, since we found remains of only one chimney, and this almost entirely below the kitchen area, we were sure that the chimney flue must have opened into the kitchen. How cook there otherwise? The chimney had tipped towards the west as it fell, hence must have stood a little nearer the center of the house than where we found it. This location of the chimney agrees with that shown in Roosevelt's view across the front veranda (see Mattison 1960, Photograph #3). No early pictures show the chimney.

We were bothered by Roosevelt's (1885, 16) descriptions of evenings "spent sitting around the hearthstone, while the pine logs roar and crackle, and the men play checkers or chess in the firelight." Fred Sewall, son of W. W. Sewall, advised Mattison that Wilmot Dow had built the fireplace in the Elkhorn ranch house. We know where the brick and mortar rubble was located, and in trying to reconcile this information with the sketch plans, we decided that about the only place the fireplace could have been was also in the kitchen. This seems an unlikely place for a rack of elk antlers to jut out over the fireplace as Roosevelt describes. The only other place a fireplace could have been was against the northern wall in the dining room, but the lay of the fallen flue doesn't support that idea.

In order to make a fireplace fit into the interior house plan we assumed that the kitchen and dining room had each been 16 feet wide. This is what is shown in Theodore Roosevelt's tentative plans for the south side of the house. From that point on our interior plan includes data from both sketches and is really a compromise between the two.

I suspect that there was a span of several years between some of the pictures of the ranch house. Roosevelt's overall view of the ranch (Figure 2) shows quite clearly fences intact around the house, and we found most of the posts in that fence. However, in another photograph (Figure 19) the fences have disappeared. I would agree with Mattison (1960, 16) that the first probably dates from ca. 1885 or 1886, but things look pretty decrepit in the second picture. I suggest this may have been taken even as late as during Roosevelt's 1892 visit.

The Barn.--William Sewall gave a brief description of the barn and its dimensions in a letter written in 1885:

"... We hew the logs on three sides and are putting up two stables 16 x 20 feet with a twelve-foot space between like a woods hovel and hay shed."

Two of Roosevelt's photographs show this building. One (our Figure 21) is a fairly close-up view of two stable rooms which were separated by an open space between. A slightly gabled roof, almost flat, covered the whole structure and extended out beyond the stable walls. A thin mantle of clay or sod covered the roof. From the photograph it is difficult to say whether grass is growing on the roof or whether it is covered by loose hay. A buggy or light wagon was under the roof in the space between the rooms. A ladder leaned against the front of the east stable and led up to a stack of hay on the roof. Two doors, one in each stable, opened towards the south. Corral fences

abutted against the barn. The corrals were arranged so that the west stable door opened into one fenced area and the door of the east stable into another. A window-like opening was cut into the easternmost stable wall (probably in the western one too). In the photograph it looks as though this opening was used to throw manure out from the inside. A close scrutiny of this picture leads me to suggest that there were spaces through the center stable walls where feed could be thrown into the stables from the covered space between.

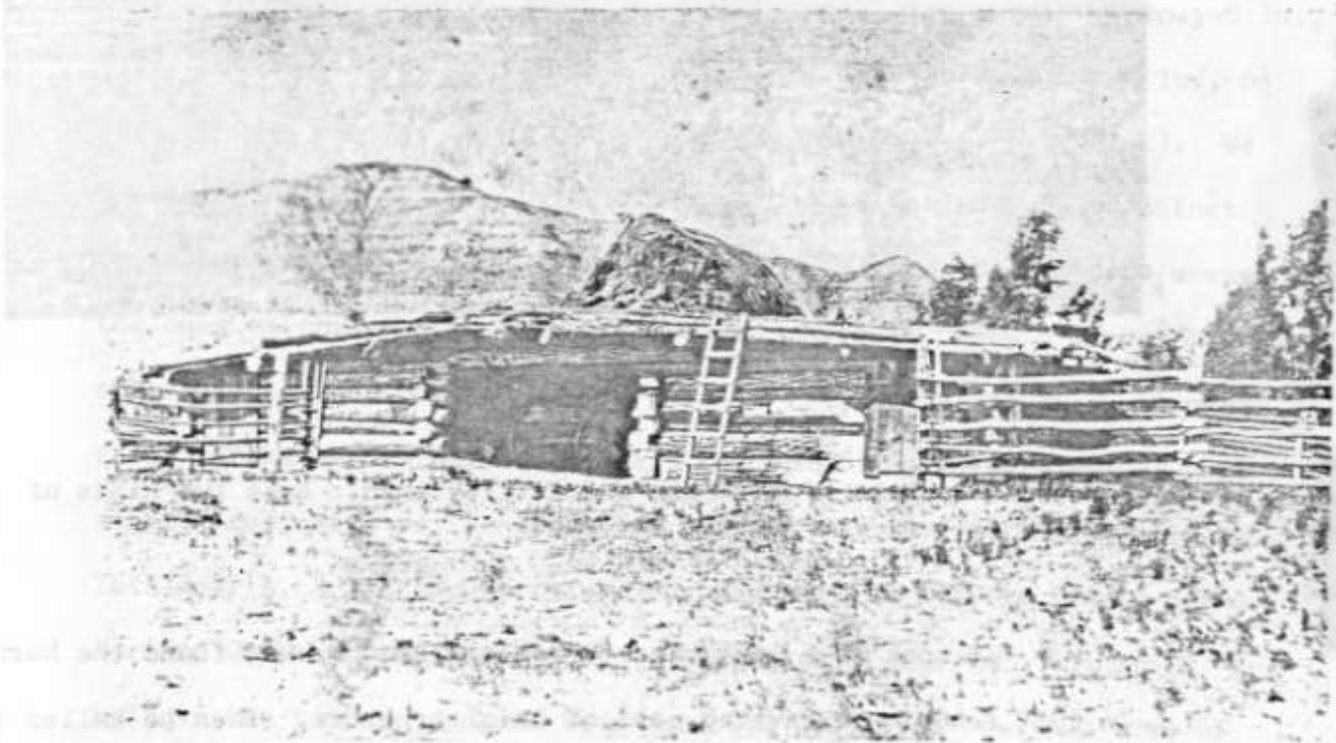


Figure 21.
Roosevelt's close-up view of the barn. Note two stables with space between. Note also the fences.

A second Roosevelt picture (Figure 22) shows the barn from a distance. It was surrounded by corrals and fences. This photograph, in addition to showing us important relationships, adds a little data on the barn's construction. It shows that the back (north end) of

the space between the stables was closed by closely-spaced vertical posts.



Figure 22.
Roosevelt's photo of the barn and utility shed. Note two kinds of fences, pile of wood before the shed.

It took us a long time to realize that we had found the barn. In 1957 Beaubien excavated part of this structure. Then he called it "the cowshed," for he thought he was digging in the building which Roosevelt's view shows lying east of the barn. Beaubien uncovered most of the south wall and the section of vertical posts behind the open area in the north wall. There he noted a horizontal log laying adjacent to the posts and speculated that the log may have been placed there to keep cattle out away from the building. He found many other vertical posts--including a section which caused him to guess that the westernmost wall had that type of construction (NPS Photographs Numbers 17011,

17012, 17014). Beaubien was seriously hampered, as we were in 1959, by the fact that this building had completely burned, and virtually nothing was left but ashes and small fragments of charcoal. He was limited, too, by the lack of time necessary to do complete subsurface explorations.

In 1959 we uncovered Beaubien's area and expanded it in all directions, until we were well beyond the area which contained ash and charred wood. We found and mapped the 18 vertical posts in the north wall. (Their diameters, from the west towards east were: $7\frac{1}{4}$ in., 8 in., 7 in., $6\frac{1}{2}$ in., $7\frac{1}{2}$ in., 7 in., $6\frac{1}{4}$ in., $4\frac{3}{4}$ in., $7\frac{1}{4}$ in., $6\frac{3}{4}$ in., $6\frac{1}{2}$ in., 11 in., 11 in., $7\frac{1}{4}$ in., 6 in., $4\frac{3}{4}$ in., 6 in., $5\frac{3}{4}$ in.). We located other posts, and we plotted what seemed to be three distinct but adjacent areas where burning had occurred. In two of these areas, the ones on the east and west, ashes and charcoal, 3 to 4 inches thick, overlay a heavily charred manure level. The manure was $3\frac{1}{2}$ to 4 inches thick in the east stable area, less than that elsewhere. In the east stable area, too, we found charred timbers in baked yellow-colored mud. This debris, $2\frac{3}{4}$ inches thick, overlay ash, some of it finely granular and white (burned hay?), and charcoal nearly an inch thick. I believe the timbers and mud were from the collapsed roof. A view of the entire barn area after we had cleared it is shown in Figure 23.

We weren't able to locate the western row of vertical posts. Perhaps the road scraper had knocked them out when it backfilled Beaubien's excavations. Our excavations are shown in the general map of the Elkhorn spread.

It wasn't until after we had followed out the fence lines and found the utility shed that we finally were able to visualize the scene

shown in Figure 22 and realized that we had the barn. That photograph was taken from a point about 25 feet due west of the well. Roosevelt was looking north. The barn lay about 150 feet northwest of the house (cf. large map).



Figure 23.

A view of the barn area looking generally in a southeasterly direction. The vertical posts mark the north wall in the space between stables. Beaubien's 1957 excavations were mostly confined to the area west of the eastern stable.

My sketch, Figure 24, takes some data shown in the photographs, some from archeological excavations, and superimposes them on my map. It is accurate except for possibly two things. We did not find the two centermost fence posts along the front of the barn, and I have tried to envision the locations and function of those posts which Beaubien (NPS Photographs 17011 and 17012) suggested might be part of the west wall. I'm certain that in the west stable the western wall was constructed of horizontally-laid logs. The butt ends show in Figure 21.

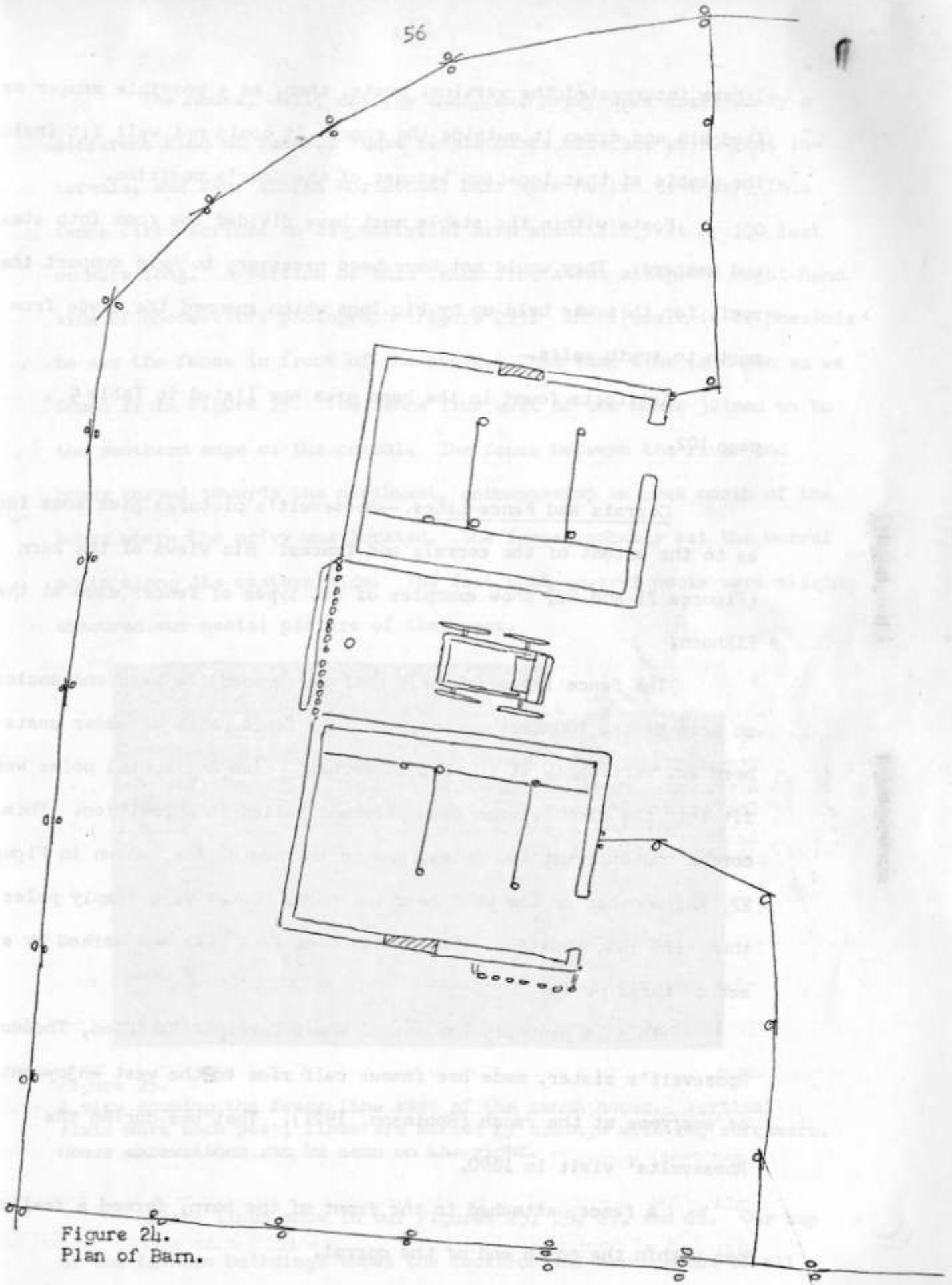


Figure 2h.
Plan of Barn.

I have interpreted the vertical posts, then, as a possible manger or feed bin and drawn it outside the room. It could not well fit inside the stable at that location because of the door's position.

Posts within the stable must have divided the room into stalls and mangers. They would not have been necessary to help support the roof, for this was held up by big logs which spanned the space from north to south walls.

Artifacts found in the barn area are listed in Table 5 , page 102.

Corrals and Fence Lines.--Roosevelt's pictures give some idea as to the extent of the corrals and fences. His views of the barn (Figures 21 and 22) show examples of two types of fences used at the Elkhorn.

The fence lines in the corral surrounded the barn and enclosed an area almost 100 feet square. In this fence pairs of cedar posts had been set vertically at 10-foot intervals. Five horizontal poles were fit into the slot between each pair and nailed into position. This corral had at least two gates, one on the south side, shown in Figure 22, and another on the west near the barn. Gates were simply poles that slid into position. The position of each gate was marked by a set of three posts.

This is probably the corral where Corrinne Robinson, Theodore Roosevelt's sister, made her famous calf ride to the vast enjoyment of everyone at the ranch (Robinson, 1921). That was during the Roosevelts' visit in 1890.

A fence, attached to the front of the barn, formed a smaller pen within the north end of the corral.

The house, well, utility shed, and privy were enclosed by a different kind of fence. There single posts were set at 10-foot intervals, and four spaced horizontal bars were nailed to them. This fence circumscribed an asymmetrical area about 110 feet by 100 feet or more long. A portion of this fence line shows along the right-hand side of Roosevelt's photograph (Figure 22). In Figure 2 it is possible to see the fence in front of the house. That same line is shown as we found it in Figure 25. The fence line west of the house joined on to the southern edge of the corral. The fence between the river and house curved towards the northwest, encompassing an area north of the house where the privy was located. The fence probably met the corral again along its eastern side. The fact that several posts were missing obscured our mental picture of that area.



Figure 25.

A view showing the fence line east of the ranch house. Vertical slats mark each post; lines are marked by strings with rag streamers. House excavations can be seen on the right.

Fence lines show in our Figures 23, 25, 27, and 28. Our map of the Elkhorn buildings shows the location and arrangement of all

vertical posts that were found.

Details on the posts in the corral and fence are given in Table 1. The posts as shown on our map were numbered beginning with the pair at the southwest corner (Number 1) and then proceeding clockwise around the corral. Thus, Number 1 is the post set in the southwest corner; Numbers 20, 21, 22, and 23 round off the northeast corner; set Number 32 is at the southeast corner; sets 37 and 38 form the west gate. In the table "inside" refers to the post nearest the inside of the corral. Under the heading Shape "split" means that the post had been cut longitudinally, probably so that two or more posts could be made from the same pole.

TABLE 1

DIMENSIONS OF FENCE POSTS IN CORRAL

Set #	Post	Shape	Maximum Diameter inches	Distance between posts in set, inches
1	outside	round	$3\frac{1}{2}$	$6\frac{1}{2}$
	inside	round	$3\frac{1}{2}$	
2	outside	split	$6\frac{1}{2}$	8
	inside	round	$3\frac{1}{2}$	
3	outside	round	$4\frac{1}{2}$	$7\frac{3}{4}$
	inside	split	$4\frac{3}{4}$	
4	outside	round	$5\frac{1}{2}$	$7\frac{1}{2}$
	inside	round	6	
5	outside	round	$5\frac{1}{2}$	$7\frac{1}{2}$
	inside	split	$7\frac{1}{2}$	
6	outside	round	$4\frac{1}{2}$	8
	inside	split	$5\frac{1}{2}$	
7	outside	split	$6\frac{1}{4}$	$5\frac{1}{2}$
	inside	split	$6\frac{3}{4}$	
8	outside	round	$4\frac{3}{4}$	5 $5\frac{1}{4}$
	middle	split	6	
	inside	split	$6\frac{1}{2}$	
9	outside	round	$5\frac{1}{4}$	$5\frac{1}{4}$ 6
	middle	split	$6\frac{1}{2}$	
	inside	split	6	

TABLE 1 (continued)

DIMENSIONS OF FENCE POSTS IN CORRAL

Set #	Post	Shape	Maximum Diameter inches	Distance between posts in set, inches
10	outside inside	round split	5 3/4 6 1/2	7
11	outside inside	round round	5 5 1/2	6
12	outside inside	split round	5 1/2 4 1/2	6 1/4
13	outside inside	split oval	5 1/2 4 1/4	6
14	outside inside	round round	4 1/2 4	6
15	outside inside	split round	8 1/4 5	5 3/4
16	outside inside	split round	5 5 1/2	5
17	outside inside	round split	5 1/2 6	5
18	outside inside	round round	5 3	6 1/4
19	outside inside	split split	5 3/4 5 1/4	5 1/2
20	outside inside	round round	5 4 1/2	6
21	outside inside	round split	5 5 1/4	6
22	outside inside	round split	5 1/2 4 1/4	7 1/2
23	outside inside	round round	4 1/8 3 3/8	6 1/4
24	outside inside	round split	4 1/2 4 1/4	6 1/4
25	outside inside	round split	4 1/2 4 1/4	6 3/4
26	outside inside	split split	7 5 1/4	5 1/2
27	outside inside	round split	4 5 3/4	6
28	outside inside	round round	6 1/4 4 1/2	5
29	outside inside	round round	3 3/4 3 1/2	7 1/2
30	outside inside	split round	6 2 3/4	6 1/2

TABLE 1 (continued)

DIMENSIONS OF FENCE POSTS IN CORRAL

Set #	Post	Shape	Maximum Diameter inches	Distance between posts in set, inches
31	outside	round	3 3/4	7
	inside	round	3 1/2	
32	outside	round	4	5 1/2
	inside	split	5 1/2	
33	outside	round	7	7
	inside	split	6	
34	outside	round	4	6 1/2
	inside	round	2 1/2	
35	outside	round	4 1/4	5 1/2
	inside	split	5 3/4	
36	outside	split	8 1/16	5 3/4
	inside	split	5 1/2	
37	outside	round	4 1/4	4 6
	middle	round	4	
	inside	round	4	
38	outside	round	5	6 1/2
	inside	split	6	
	to west of pair		1 x 4 cedar board	
39	outside	round	5	6
	inside	split	4	
40	outside	round	5	8
	inside	round	2 1/2	
41	outside	round	4	4 1/2
	inside	split	4 1/4	

The five remaining posts across the front of the barn, from west to east: round, 7 1/2 in. diameter; split, 6 1/2 in. diameter; round 8 1/2 in. diameter (this post had nails in it); round, 5 1/2 in. diameter; split, 6 1/2 in. diameter.

Posts inside the barn (we found eight, and holes from others) were all round and ranged from 4 3/4 in. diameter to 7 inches.

The short row of posts (3) east of the corral, north to south; round, 4 3/4 in. diameter; split, 5 3/4 in. diameter; north member of a pair, round 5 in. diameter, other, round 4 1/2 in. diameter.

The posts in the fence line were numbered beginning at the north end of the west fence by the corral, then moving south along the west fence to the corner, along the south fence from west to east, thence north along the east fence line. All posts in this fence were single; all were round except for one split post at the southeast corner (#19) and a squared post (#23) east of the house. Posts 25 through 33 curved the fence line towards the west following the scoria path. Perhaps trees served to nail horizontal bars against across the front of the house, for there were several spaces where we could find no posts.

TABLE 2

DIMENSIONS OF FENCE POSTS

Post Number	Diameter, inches
1 Near corral	$3\frac{1}{2}$
2 just north of the pen	$4\frac{1}{2}$
3 adjacent to south wall of pen	$4\frac{3}{4}$
4	$5\frac{3}{4}$
5	$3\frac{1}{2}$
6	$4\frac{1}{2}$
7	4
8	$3\frac{1}{2}$
9 southwest corner (rotted)	4 (approximate)
10	$4\frac{3}{4}$
11 nearest to well	$3\frac{7}{8}$
12	$4\frac{1}{2}$
13	4
14	4
15	$3\frac{3}{4}$
16 near west corner of piazza	$4\frac{1}{8}$
17 no post, rotted out	
18	$4\frac{1}{8}$
19 southeast corner	$4\frac{1}{2}$
20 just south of split tree	$4\frac{1}{2}$
21	5
22	$3\frac{3}{4}$
23	6 (squared)
24 east northeast corner of house	$5\frac{1}{8}$
25	$3\frac{3}{4}$
26	5
27	$4\frac{7}{8}$
28	$4\frac{3}{4}$
29	$4\frac{1}{2}$
30	$4\frac{1}{2}$
31	$3\frac{1}{4}$
32 unknown, rotted	
33	$5\frac{1}{2}$

A third kind of fence is shown in one of Roosevelt's photographs (Figure 26). This view looking westward across the Elkhorn clearing, shows a fence along the western edge. This fence line was made of "x" frames set on top of the ground. A horizontal bar spanned the distance between tops of the "x"s, and two other poles were nailed to the frame below. This fence probably served to keep animals out of the gardens as well as keeping ranch animals from drifting off. Because this type of fence rests entirely on the surface we did not expect to find any archeological evidence of its presence.

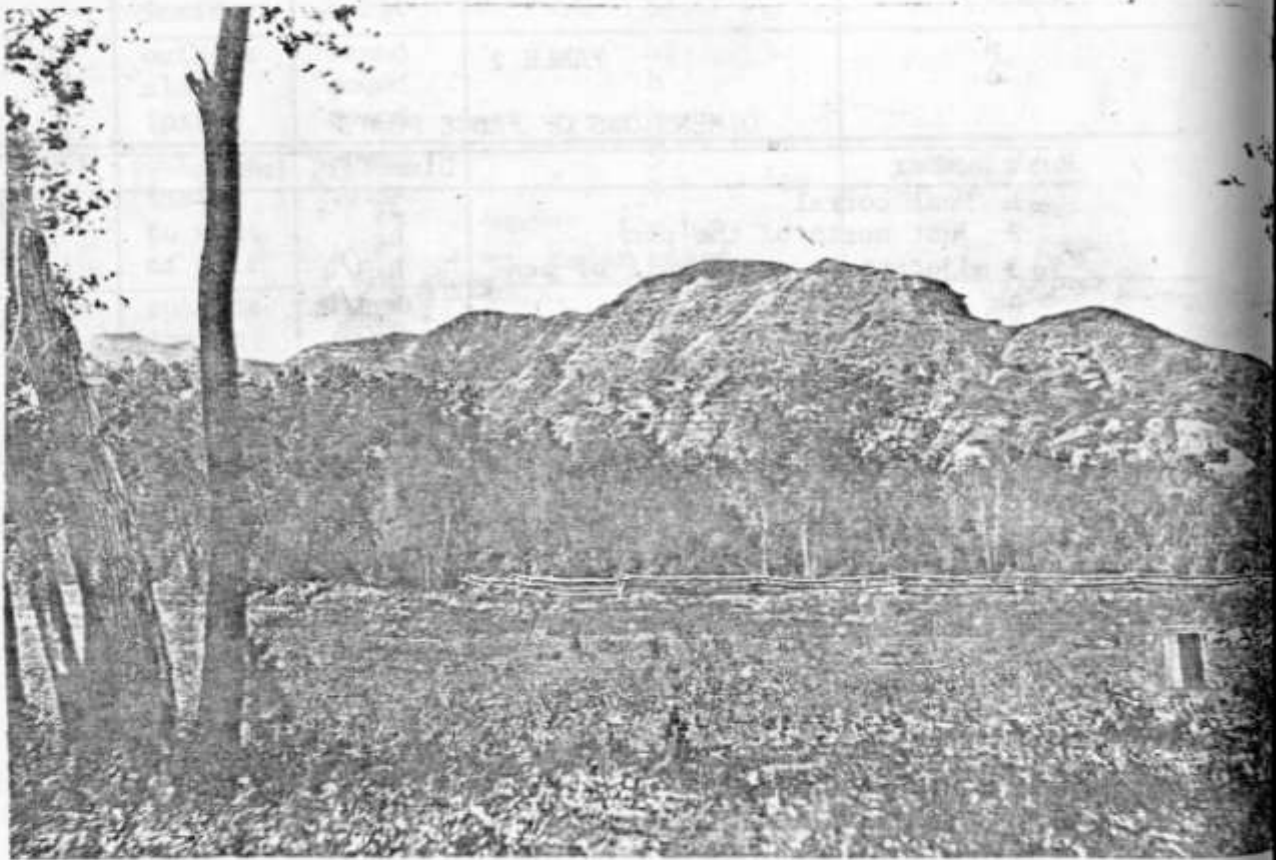


Figure 26.
Roosevelt's photograph of about 1886. The view is looking westward across the clearing. Note fence of "X" frames.

Utility Shed and Pen.--We had not anticipated finding a structure such as that which I have called a "pen," for Roosevelt's pictures show no such feature. We encountered bases of a whole row of vertical cedar posts while searching for the fence line. We followed around the posts until we had exposed a rectangular-shaped outline. Its outside dimensions were: north wall, 13 feet 2 inches long; south wall, 13 feet 9 inches; west wall, 18 feet $8\frac{1}{2}$ inches; east wall 20 feet $\frac{1}{4}$ inches. Posts were continuous on the north, west, and south sides, but in the eastern wall posts only extended northward 3 feet $\frac{1}{4}$ inches, leaving a 17-foot wide break in that wall (see map of house area). The posts, all except for nine in the southwest corner, were badly charred and appear to have been burned off at ground level. Diameters of these posts ranged from $3\frac{1}{2}$ inches to 7 inches, most were $\frac{1}{4}$ to 5 inches across. These upright posts were set closely together and probably once were so near to each other that a full-grown chicken would have been unable to pass between.

Under the top soil in the eastern part of the area within the walls we discovered a layer, 1 inch to 2 inches thick, of reddish-yellow colored burned clay. This contained burned and carbonized pieces of big timbers, perhaps fallen from the roof of the adjacent utility shed. The clay overlay a layer, $1\frac{1}{2}$ inches thick, of charred wood, charcoal, and ashes. Below that the sand was red and discolored to a depth of $2\frac{1}{2}$ inches. Under this debris we found part of a box-like structure. A series of boards (looked like a bit of flooring) measured $\frac{1}{4}$ feet long by 3 feet wide. Boards had been nailed at right angles on both sides. At the time I thought it might have been a bin of some sort. I now wonder if my "pen" might not have been the chicken coop, and the wood was from a nesting box. Otherwise we found some artifacts and

quite a bit of bone within this structure. Perhaps bones were given to hens for them to pick? The pen or chicken coop is shown in Figure 27.



Figure 27.

View, looking south, of the pen or chicken coop. The utility shed lay just to the left and its southwest corner is marked by a slat. Strings and slats in the middle of the photo mark a fence line.

After finding the barn and checking Roosevelt's photographs we expected to find a shed near the fence line in this area. In clearing the chicken coop we had noted that ash and burned debris extended well on towards the east. We followed this through a layer 2 inches to 3 inches thick, of burned roof wood, discolored clay, and ash. There was little charcoal; either the wood had been almost completely consumed or there hadn't been much wood in the fire. The area of burning extended out from the pen for another 12 feet in a broad (15 foot) irregular semicircle (Figure 28). Beyond that we encountered only soft sand and lots of lignite slack, not the remains of base logs

we had hoped for. We located only one thin piece of rotten log. This lay near where the southwest corner of the utility shed had been.

Otherwise nothing remained to indicate outlines of the shed. I might speculate that the logs were taken away intact, thus they have left so little trace.

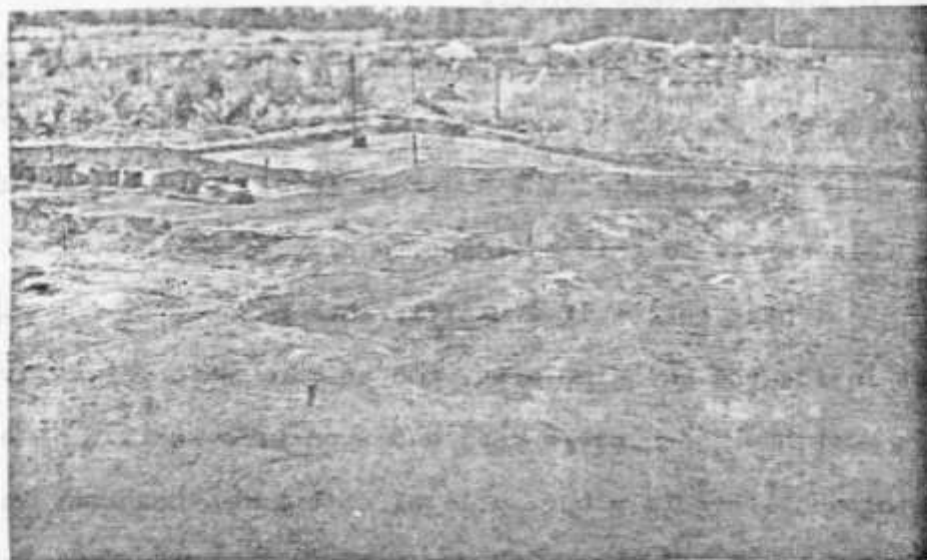


Figure 28.

Looking northward. View of burned rubble marking site of the utility shed. Posts on left are the pen or chicken coop. String and vertical slats near top of photo mark southern corral line.

The outlines as shown for the utility shed on our map are probably close to correct but not absolutely right. We looked long and thoughtfully at rather ephemeral traces in the earth before marking the corners. As we guessed them, the dimensions of the shed were: north side, 16 feet long; south side, 17 feet 6 inches (seems unlikely); east side 24 feet 10 inches; west side, 25 feet 2 inches. Likely the outline of the south wall is drawn correctly. There seemed to be a line in the ground with only sand on one side and many many wood chips

and fragments of bark on the other.

There can be no doubt that the shed stood there. It is shown in Roosevelt's photograph (Figure 22) as a rectangular log building having a low-gabled overhanging roof. The roof was covered with sod or clay. A door opened on the south side, and there may have been windows in the southeast corner.

In a letter dated April 27, 1953 Mr. Henry Walz stated: "I fixed up the storehouse west of the house and well to live in." This was while he demolished the house in 1898. I have no doubt but what Mr. Walz refers to this building.

I have called it a utility shed because we noted so much coal dust inside the building area, and so many wood chips lay near it that this must have been where coal and wood were kept. In Roosevelt's photograph there is a huge pile of cottonwood branches in front. Possibly the coal shed was used for storage and other things as well.

The chicken coop was built against the west side of the utility shed. Probably this was not a roofed structure, although it could have been. Entry into the coop was likely through a door that hung between the shed and the vertical poles in the east side (see Figure 29). The shed's roof extended out far enough to have covered the entry area. I would think that laying-boxes for hens rested against the wall of the shed. Boards or perhaps a narrow door closed the opening between the shed and the pen wall along the north where there were no posts. The coop could probably keep chickens and poultry inside and most predators out, but Theodore Roosevelt mentions that bobcats successfully got into his hen house time after time (1885, 26).

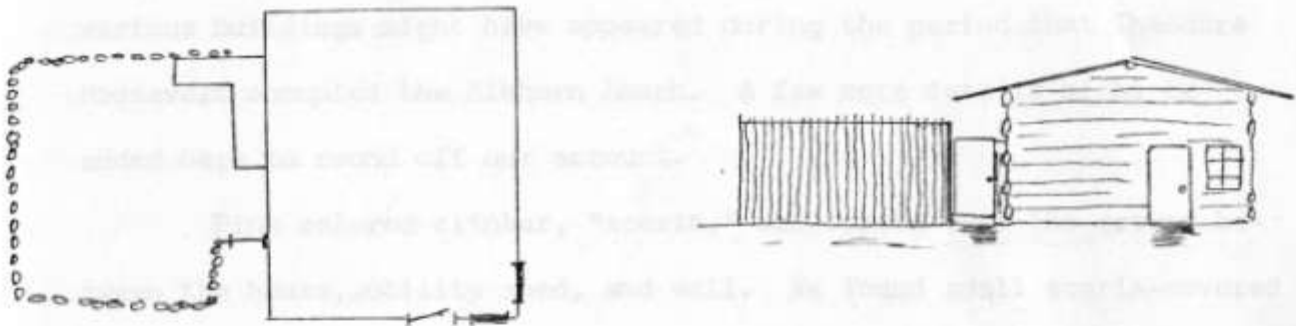


Figure 29.
Sketch of the utility shed and chicken coop.

CHAPTER VI

AFTERTHOUGHTS

In the preceding pages I have attempted to illustrate how the various buildings might have appeared during the period that Theodore Roosevelt occupied the Elkhorn Ranch. A few more details might be added here to round off our account.

Pink colored clinker, "scoria," was spread over the ground between the house, utility shed, and well. We found small scoria-covered areas off the southern piazza and in front of the house as well. There was a scoria path leading off the front veranda northward for nearly 85 feet before it came to an abrupt end. Reasonably we thought that this path might lead to the privy. Indeed, two of Roosevelt's photographs show a familiar-looking tall thin peak-roofed building in that area north of the house (Figure 2 and Mattison 1960, Photograph No. 3). Although we searched diligently (much to the delight of the local cowboys who thought the whole thing was ridiculous) we could not find the spot where that necessary building had stood. Our search in that area did disclose an ash pile, apparently where ashes from the fireplace or kitchen stove were dumped.

Some things are puzzling, for example I do not understand the short fence just east of the corral. I am bothered by being unable to outline the utility shed with more accuracy. What happened to the outhouse? During our excavations, when I had first heard the myth of an ice jam and flooding, I was convinced that water had carried in the

sand that filled the cellar. More reflection has made me realize that wind, too, will lay sand in swirl patterns. Now I seriously doubt that there ever has been any flooding over the site area since it was abandoned. Too much remained intact.

A study of the artifacts which we recovered might be most insightful into those bits of private life that are never mentioned in histories. Cans of Maine oysters, a lard bucket from N. K. Fairbank Company in New York, Hood's sarsaparilla bottles, an apothecary bottle from Ottawa, Dr. Pierce's Favorite Prescription, wine bottles, rubber boots, shoes, a suspender, cartridge cases, a coyote skull--these and hundreds of other items help portray the minutiae of daily life at the Elkhorn Ranch between 1885 and 1890.

The archeology was problem-oriented. We found the buildings that we were after. The maps are made, locations plotted, and we now know much more than ever before about the ranch layout. However, it is still possible that remains of other structures may be undiscovered and unsuspected.

We considered the possibility that at some future date reconstruction might be done at the Elkhorn Ranch Site. The National Park Service furnished us with concrete posts, and before filling in our excavations, we placed a post at the southwest and northwest corners of each building so that they could be readily located again.

As is the case with every archeologist once he is back from the field and has pondered over his data, I am conscious of many minor details and things that should have been clarified or attended to during the dig.

CHAPTER VII

ARTIFACT DISTRIBUTION

As our specimens were picked up in the field they were marked with a field specimen (FS) number in India ink. All of these numbered artifacts were left with the Superintendent at Theodore Roosevelt National Memorial Park. The following tables list the items by field specimen number, indicate the areas from which they came, and show their associations:

TABLE 3

ARTIFACTS FROM THE BLACKSMITH SHOP

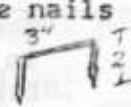
FS Number	Provenience	Description
1	Along the north and west walls at the corner of the blacksmith shop. Outside.	1 1/4-inch square nail 1 1 1/2 inch square nail 2 broken pieces of square nails 1 strip metal 2 3/4L x 3/4W x 1/8 thick 1 piece heavy wire 1 barb 7 in. long 3 pieces mortar 1 cow tooth
2	Along the east and south side of the blacksmith shop, outside the building.	1 piece leather 2 3/4 x 3 1/4, 3 nail holes 1 1/4-in. square nail 1 2-in. square nail 1 horseshoe nails 1 brad  1 1/4-shell 3 small pieces, metal bar 1/2 x 1/2 x 1 inch 2 small pieces metal rod, 1/2 inch dia.

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP

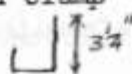

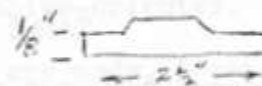
FS#	Provenience	Description
2 cont.	Along the east and south sides of the blacksmith shop, outside the building.	<p>1 piece $\frac{1}{2}$ in. rod, metal $3\frac{1}{2}$ in. long</p> <p>1 piece $\frac{1}{2}$ in. rod, $5\frac{1}{4}$ in. long, flattened one end, tapered other</p> <p>1 $3\frac{1}{2}$ in. screw, $\frac{3}{4}$ in. dia. head, flat head, threaded 2 in.</p> <p>1 cotter key, 1 in. long</p> <p>1 flat piece metal sheet 2 in. x $\frac{3}{4}$ in.</p> <p>1 board clamp  for 1" board</p> <p>1 piece hexagonal iron bar, 1 in. x 1 in.</p> <p>1 piece metal strip $\frac{3}{8}$ in. wide x $\frac{1}{8}$ in. x 6 in. long</p> <p> curved hook</p> <p>1 bar metal $\frac{3}{4}$ in. x $\frac{1}{2}$ in. x 4 in.</p> <p>1 piece metal </p>
3	Inside blacksmith shop in the southeast corner of the south room.	<p>1 3 in. square nail</p> <p>1 $2\frac{1}{2}$ in. square nail</p> <p>1 horseshoe</p>
4	Inside blacksmith shop, in the southwest corner of the south room.	<p>3 horseshoe nails</p> <p>4 pieces med. wire ($\frac{1}{16}$ dia.) 4, 7, 5, 6"</p> <p>1 two pieces wire twisted together</p> <p>1 one-inch staple</p> <p>2 $3\frac{1}{2}$ in. square nails</p> <p>1 2-inch square nails</p> <p>1 piece iron rod $\frac{1}{2}$ in. dia, one end flattened, $3\frac{3}{4}$ in. long.</p>
5	Northeast corner of blacksmith shop	Several pieces of cottonwood bark. (discarded)
6	Against west wall in north room of blacksmith shop.	<p>9 pieces window glass</p> <p>1 broken end of square nail</p> <p>4 pieces med. gauge wire; 24 in., 5 in., 7 in., 3 in.</p> <p>1 $1\frac{1}{2}$ in. square bolt</p>

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP






FS #	Provenience	Description
7	Northern end of north room in blacksmith shop.	<p>1 3½ in. square nail, sq. head</p> <p>1 3 in. square nail, sq. head</p> <p>1 2½ in. square nail, sq. head</p> <p>1 broken piece square nail</p> <p>1 piece 3/8 in. dia round iron, 2½ in. long, threaded</p> <p>2 pieces iron ½ in. dia. square, 1 in. and 1½ in. long</p> <p>3 small fragments tin from can</p> <p>1 piece med. guage wire, 6 in. long</p> <p>1 iron chain link, broken and spread, ¼ in. dia. x 2 in. long</p> <p>1 one-inch square sheet iron</p> <p>1 piece scrap iron</p> <p>1 piece scrap iron </p> <p>1 piece scrap iron  3½" long</p> <p>1 piece scrap iron </p>
8	Southeast quarter of north room in blacksmith shop.	<p>1 large bolt 9½ in. long, round head, round 3/8 in. dia., threaded ½ in. on bottom</p> <p>1 bolt, round ½ in. dia. with square head, 9 3/4 in. long, tapers to point on end</p> <p>1 3 in. piece round iron 3/8 in. dia.</p> <p>4 pieces round iron ¼ in. dia; 3, ½ in. long - 1 one-inch long</p> <p>21 small blocks scrap iron ½ in. squares</p> <p>1 3/4 in. square bolt</p> <p>1 1½ in. round bolt ½ in. dia., round head</p> <p>2 lead pieces (see FS 9)</p> <p>10 horseshoe nails</p> <p>1 piece leather ½ in. wide, 3½ in. long</p> <p>1 3 in. square nail</p> <p>1 2½ in. square nail</p> <p>2 pieces twisted wire, med. guage; ca. 15 in. and 8 in.</p> <p>1 piece iron 2 in. x ½ in. </p> <p>1 piece iron 5½ in. x ½ in. x 1 in. </p>

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP




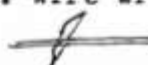

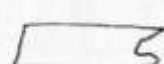
FS #	Provenience	Description
9	Near eastern wall of blacksmith shop, mostly in north room.	<p>14 horseshoe nails</p> <p>1 piece fine ga. wire $\frac{1}{4}$ in. long</p> <p>1 $3\frac{1}{2}$ in. square nail, sq. head</p> <p>1 3 in. square bolt with round head</p> <p>5 pieces iron, $\frac{1}{2}$ in. square blocks, not even in size</p> <p>3 lead pieces</p> <p>1 2 in. square nail</p> <p>1 metal piece, u-shaped, $\frac{1}{4}$ in. total length</p> <p>1 metal piece $\frac{1}{2}$ in. dia. with hole in center</p>  <p>actual size</p> 
10	Near walls outside southeast corner of blacksmith shop.	<p>Bone material</p> <p>6 horseshoe nails</p> <p>1 broken end of square nail</p> <p>1 large cotter key, broken, $\frac{1}{4}$ in. length $\frac{1}{4}$ in. dia.</p> <p>2 pieces window glass</p> <p>3 square pieces iron, about $\frac{1}{2}$ in. square, not uniform size</p> <p>1 12-ga. Winchester Leader shell case</p> <p>2 44 WRA Co, shell cases</p> <p>1 .40-60 UMC Co. shell case</p> <p>1 .45-75 unmarked shell case</p> <p>1 .45-90 WRA Co. shell case</p> <p>1 3 in. square nail</p> <p>1 3 in. broken end of square nail</p> 
11	South end of north room and from near partition in south room of blacksmith shop.	<p>1 can lid, 6 in. dia.</p> <p>1 round piece of tin, 6 in. dia.</p> <p>Bone material.</p> <p>142 horseshoe nails</p> <p>2 $\frac{1}{4}$ in. square nails, sq. head</p> <p>19 3 in. square nails, sq. head</p> <p>20 $2\frac{1}{2}$ in. square nails, sq. head</p> <p>7 2 in. square nails, sq. head</p> <p>1 $1\frac{1}{2}$ in. square nail, sq. head</p> <p>4 broken pieces square nails</p> <p>10 pieces fine ga. wire; 3 pieces twisted and totalling about $\frac{1}{4}$3 in.</p> <p>3 pieces medium ga. wire, totalling 26 in.</p> <p>1 piece medium ga. wire with one barb, 5 in. length</p> <p>2 pieces window glass</p> 

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP

FS #	Provenience	Description
11 cont.	South end of north room and from near partition in south room of blacksmith shop.	<p>1 $\frac{1}{2}$ hinge $4\frac{1}{2}$ in. long with swivel x $1\frac{3}{4}$ in.</p> <p>5 triangular pieces of iron with a hold in end of each (tip of hinge?)</p> <p>1 oar lock  6" long 2 1/2" across</p> <p>2 pieces leather strap, with holes, 9 in. and $4\frac{1}{2}$ in.</p> <p>1 mower tooth</p> <p>1 piece bar iron 5 in. long x $\frac{3}{4}$ in. x $\frac{1}{2}$ in.</p> <p>5 small pieces iron, probably cut from bar</p> <p>1 piece cold chisel $4\frac{1}{8}$ in. long</p> <p>1 piece bar iron $3\frac{1}{4}$ in. long</p> <p>1 tremendous hook 22 in. long; hook <u>ca.</u> 8 in., made of 1 in. dia. iron, flattened on hook end, hammerhead on other. (rock splitting iron?)</p> <p>1 part of tin can 4 in. dia.</p> <p>3 pieces tin can, unknown size</p> <p>1 piece tin can, 3 in. dia.</p> <p>1 $\frac{3}{16}$ in. drill, broken - $1\frac{3}{4}$ in. long</p> <p>2 threaded ends of bolts with 1 in. sq. nuts, $\frac{3}{8}$ in. bolts</p> <p>1 hook for block and tackle chain with first link attached, $5\frac{1}{4}$ in. long</p> <p>1 wood screw $\frac{1}{2}$ in. flat head</p> <p>1 piece sheet iron 3 in. x 5 in. <u>ca.</u> $\frac{1}{8}$ in. thick </p>

3 pieces cut from sheet iron (actual size)

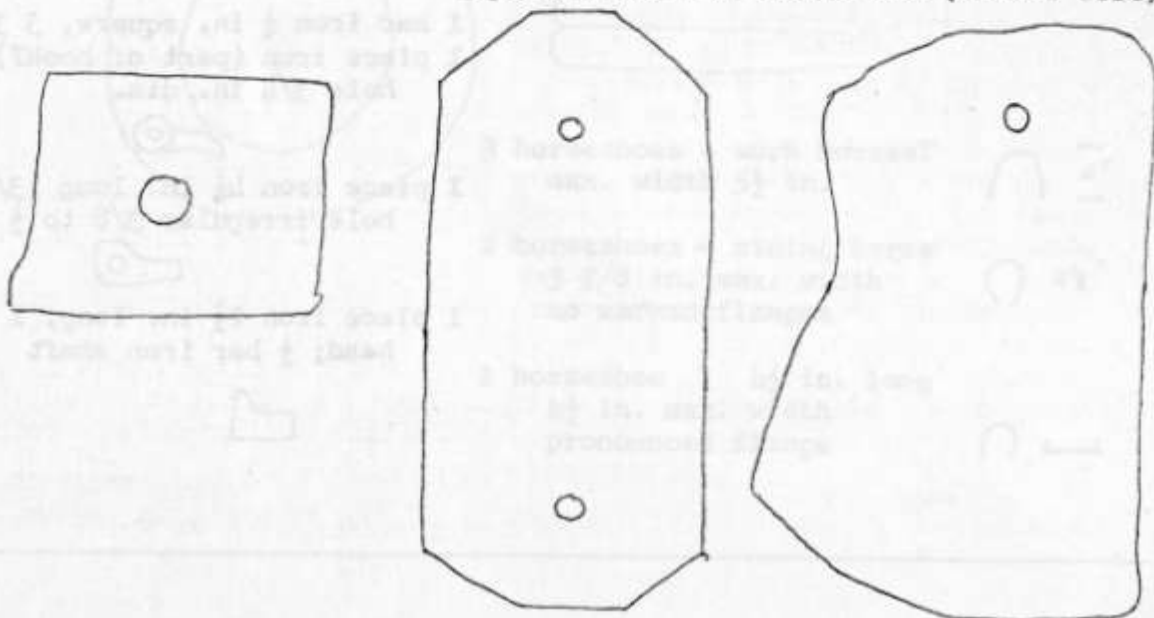


TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP

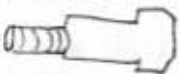


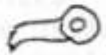


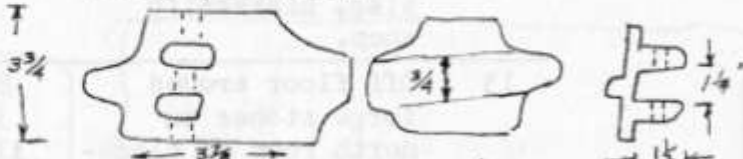
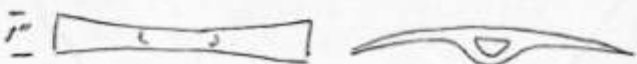
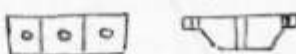


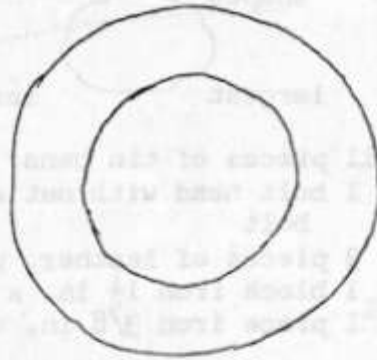

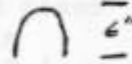
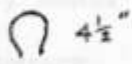
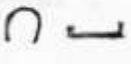
FS #	Provenience	Description
11 cont.	South end of north room and from near partition in south room of blacksmith shop.	<p>1 piece sheet metal $5/8$ in. wide x $7 \frac{3}{4}$ in. long</p> <p>2 threaded ends of bolts $3/8$ in. dia.</p> <p>1 square nut $5/8$ in. sq.</p> <p>1 square nut $3/8$ in. sq.</p> <p>1 bolt $7/8$ in. sq. head, $2 \frac{5}{8}$ in. long, $7/8$ in. threaded $\frac{1}{2}$ in; $1 \frac{1}{2}$ round, flat head, beveled corners, bolt has $1/8$ in dia. hole through it.</p> <p></p> <p>2 bolts $1 \frac{1}{2}$ in. long x $3/8$, square shank, flat curved head</p> <p>1 cylinder iron $4 \frac{3}{8}$ in. long, 1 in. dia. $3/4$ in. at end reduced to $3/4$ in. with hole through it (axle?)</p> <p>3 hunks of iron (one may be piece of wedge $2 \times 1 \frac{1}{2} \times$ tapered) 2 others look like ends off chisels</p> <p>3 pieces cylindrical iron, $3/8$ dia. 5 in. long; $\frac{1}{2}$ in. dia., $4 \frac{1}{8}$ in long; $3/4$ in. dia. x $2 \frac{3}{4}$ in. long</p> <p>1 piece iron $2 \frac{3}{8}$ in. long x $5/8$ in. wide x $\frac{1}{4}$ in thick</p> <p> $3/16$ in. holes</p> <p>1 head off spike or rock shisel $\frac{1}{2}$ in. dia x $1 \frac{3}{4}$ in. long</p> <p>1 bolt $1 \frac{3}{8}$ in. long, $3/8$ in. dia. threaded</p> <p></p> <p>1 bar iron $\frac{1}{4}$ in. square, $3 \frac{3}{4}$ in. long</p> <p>1 piece iron (part of hook?) 4 in. long hole $3/4$ in. dia.</p> <p></p> <p>1 piece iron $4 \frac{1}{4}$ in. long ($3/8$ to $\frac{1}{2}$ thick) hole irregular $3/8$ to $\frac{1}{2}$ dia.</p> <p></p> <p>1 piece iron $2 \frac{1}{2}$ in. long, 1 in. across head; $\frac{1}{2}$ bar iron shaft</p> <p></p>

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP

FS #	Provenience	Description
11 cont.	South end of north room and from near partition in south room of blacksmith shop.	<p>iron - bracket for hinge or swivel - holes $\frac{1}{2}$ in. dia.</p>  <p>iron - 5 in. long, hole $\frac{3}{4}$ in. max. dia.</p>  <p>iron - $2\frac{1}{2}$ in. long, $\frac{3}{4}$ in. wide, $\frac{3}{8}$ in. thick middle, $\frac{3}{16}$ at ends.</p>  <p>tapering iron $3\frac{3}{4}$ in. long. (piece of punch?)</p> <p>iron - 1 in. long, hole $\frac{1}{8}$, $\frac{3}{16}$ in. thick</p>  <p>roller - 2 in. long, $\frac{3}{4}$ in. wide, wheel $\frac{1}{2}$ in. dia.</p>  <p>bolt - $\frac{3}{8}$ in. shaft, 6 in. long, threaded $1\frac{1}{8}$-$1\frac{1}{4}$, square shank begins 1 in. below head, truncated cone head $\frac{3}{4}$ in. dia.</p> <p>brass ring - bottom $1\frac{3}{4}$ in. dia., top $1\frac{1}{4}$ in. dia. inside top threaded (off lantern?)</p>   <p>3 horseshoes - work horses? max. width $5\frac{1}{2}$ in.</p>  <p>2 horseshoes - riding horse $3\frac{7}{8}$ in. max. width no marked flanges</p>  <p>1 horseshoe ? $4\frac{1}{2}$ in. long $4\frac{1}{2}$ in. max. width pronounced flange</p> 

ARTIFACTS FROM THE BLACKSMITH SHOP



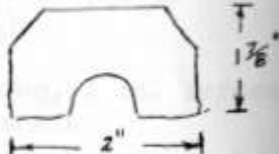
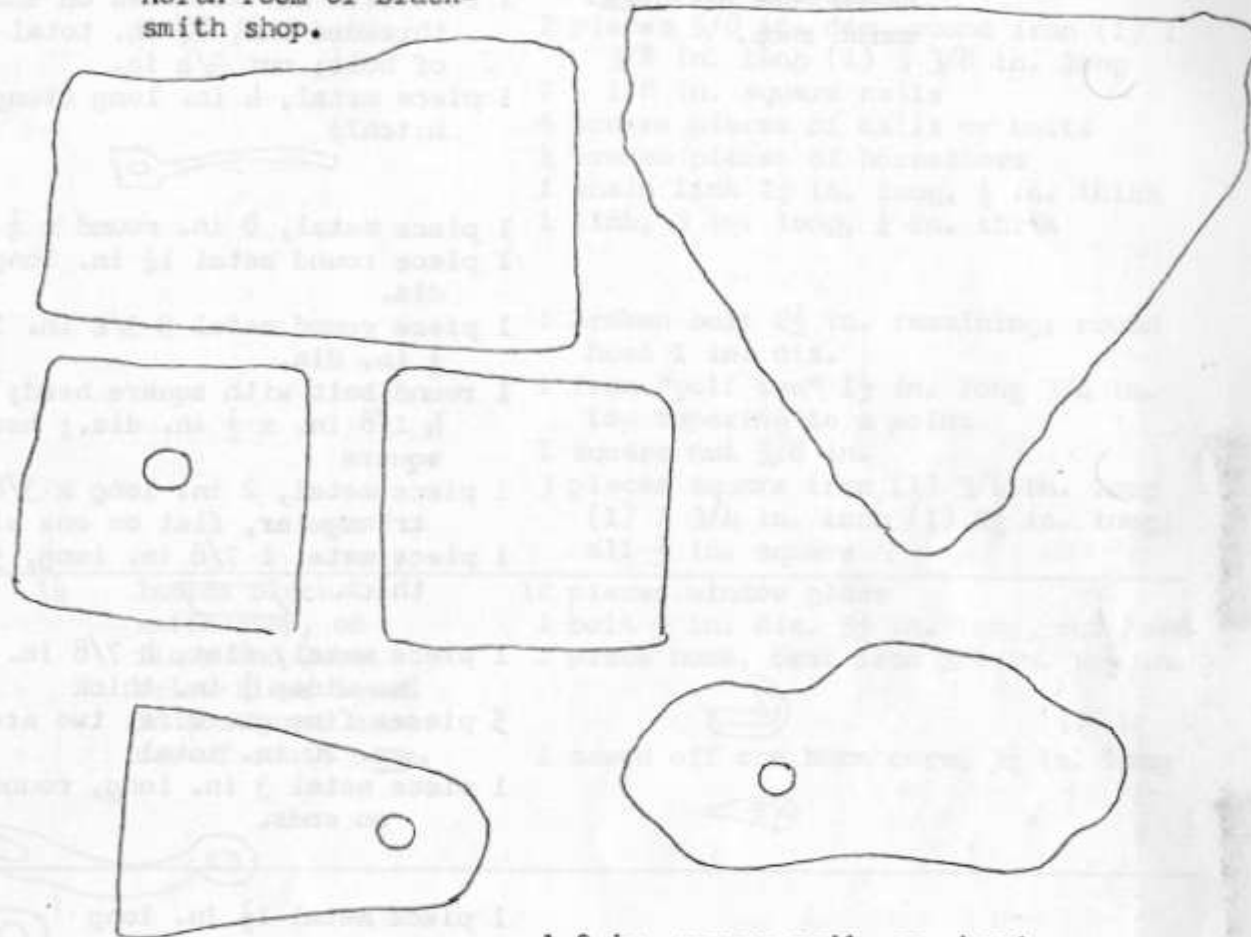
FS #	Provenience	Description
12	North room, inside the bin below slag, blacksmith shop.	About 5 pounds of small brown seeds (buffaloberry).
13	Off floor around forge stones in north room of blacksmith shop.	<p>Bone material.</p> <p>3 small chips lignite</p> <p>33 pieces window glass</p> <p>1 piece whetstone, $\frac{1}{2}$ in. thick one end, $\frac{3}{4}$ in. thick other end</p>  <p>3 pieces of wood with one nail in each piece</p> <p>104 horseshoe nails, varying lengths, all badly rusted</p> <p>10 3 in. square nails</p> <p>6 $2\frac{1}{2}$ in. square nails</p> <p>10 2 in. square nails</p> <p>7 $1\frac{1}{2}$ in. square nails</p> <p>30 broken pieces square and horseshoe nails</p> <p>6 pieces of medium ga. wire; 1 piece twisted; total length ca. 32 in.</p> <p>2 pieces heavy wire; 1 in. and 7 in.</p> <p>1 brass rivet $\frac{3}{4}$ in. long, flat round head $\frac{5}{8}$ in. dia.</p> <p>19 chunks of iron, assorted sizes and shapes</p>  <p>11 pieces of tin cans</p> <p>1 bolt head with nut attached, $\frac{1}{2}$ in. bolt</p> <p>3 pieces of leather, part of leather hinge</p> <p>1 block iron $1\frac{1}{2}$ in. x $1\frac{1}{2}$ in. x $1\frac{1}{8}$ in.</p> <p>1 piece iron $\frac{3}{8}$ in. thick</p>  <p>1 block iron, $\frac{3}{4}$ in. square x $4\frac{7}{8}$ in. long</p> <p>13 pieces of iron, small, unidentifiable, may be parts of horseshoes</p>

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP

FS #	Provenience	Description
13 cont.	Off floor around forge stones in north room of black- smith shop.	6 flat pieces of sheet iron (actual size)



- 1 2 in. square nail, sq. head
- 1 1½ in. square nail, sq. head
- 1 3 in. square nail, sq. head
- 1 5 in. square nail, sq. head
- 9 2½ in. horseshoe nails
- 2 broken ends and pieces of sq. nails
- 2 horseshoes
- 2 small pieces of brown bottle glass
- 26 pieces, small, very rusty tin
- 1 small piece lignite 2 in. x 2 in.
- 1 piece iron 2 1/8 in x 1½ in., small hole in center
- 1 piece iron 6½ in x 3/4 in. square
- 1 piece iron 3/4 in. square x 13½ in. long
- 1 piece iron, round, 11½ in. long, ½ in. dia.
- 1 piece iron:

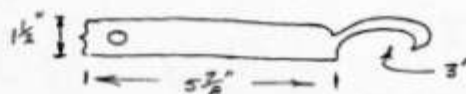


TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP









FS #	Provenience	Description
13 cont.	Off floor around forge stones in north room of black- smith shop.	<p>2 pieces iron; one, $1\frac{1}{2}$ in. long; one $1\frac{1}{2}$ in. long; $\frac{1}{2}$ in. dia., round</p> <p>1 bolt with nut attached on short threaded end, $7\frac{1}{4}$ in. total length of bolt; nut $\frac{3}{4}$ in.</p> <p>1 piece metal, $\frac{1}{4}$ in. long (tongue or hitch?) </p> <p>1 piece metal, 8 in. round x $\frac{1}{4}$ in. dia.</p> <p>1 piece round metal $1\frac{1}{4}$ in. long x $\frac{1}{4}$ in. dia.</p> <p>1 piece round metal $3\frac{3}{4}$ in. long x $\frac{1}{4}$ in. dia.</p> <p>1 round bolt with square head; length $4\frac{1}{8}$ in. x $\frac{1}{2}$ in. dia.; head 1 in square</p> <p>1 piece metal, 2 in. long x $\frac{3}{8}$ in. triangular, flat on one side</p> <p>1 piece metal $1\frac{7}{8}$ in. long, $\frac{1}{2}$ in. thick </p> <p>1 piece metal, flat, $4\frac{7}{8}$ in. long; $\frac{1}{2}$ in. wide; $\frac{1}{4}$ in. thick</p> <p>5 pieces fine ga. wire; two are twisted ca. 20 in. total</p> <p>1 piece metal 3 in. long, round, broken on ends. </p> <p>1 piece metal $1\frac{1}{2}$ in. long </p> <p>1 piece metal, twisted, $4\frac{1}{2}$ in., origin- ally square</p> <p>1 piece metal "Y" with chain (3 in.) attached. length of "Y" is 6 in. $2\frac{1}{4}$ in. across.</p> <p>1 piece flat thin iron, cut or broken on one long side; 7 in. long x 1 in. to $1\frac{1}{2}$ in. wide</p> <p>11 pieces $\frac{1}{4}$ in. dia. round iron; 7 straight pieces totalling 9 in.</p> <p style="text-align: center;">  $5\frac{1}{2}$ in.  3 in.  $1\frac{1}{2}$ in.  8 in. </p> <p>1 piece $\frac{3}{16}$ in. dia. round iron, 8 in. long</p>

TABLE 3 (continued)

ARTIFACTS FROM THE BLACKSMITH SHOP



FS #	Provenience	Description
13 cont.	Off floor around forge stones in north room of black- smith shop.	<p>5 pieces $\frac{1}{2}$ in. dia. round iron (2) 1 in. long (1) $2\frac{1}{2}$ in. long (1) 3 in. long (1) $3\frac{1}{8}$ in. long</p> <p>2 pieces $\frac{5}{8}$ in. dia. round iron (1) 1 $\frac{3}{8}$ in. long (1) $3\frac{3}{8}$ in. long</p> <p>2 $\frac{1}{4}$ $1\frac{1}{8}$ in. square nails</p> <p>6 broken pieces of nails or bolts</p> <p>4 broken pieces of horseshoes</p> <p>1 chain link $2\frac{1}{4}$ in. long, $\frac{1}{4}$ in. thick</p> <p>1 link, 3 in. long, $\frac{1}{4}$ in. thick</p> <p>1 broken bolt $2\frac{1}{2}$ in. remaining; round head 1 in. dia.</p> <p>1 iron "golf tee" $1\frac{1}{2}$ in. long $\frac{3}{4}$ in. top tapering to a point</p> <p>1 square nut $\frac{5}{8}$ in.</p> <p>3 pieces square iron (1) $\frac{3}{4}$ in. long (1) $1\frac{3}{4}$ in. long (1) $2\frac{1}{4}$ in. long; all $\frac{1}{2}$ in. square</p>
14	Inside black- smith shop, on floor and just below floor level in southeast cor- ner of south room.	<p>12 pieces window glass</p> <p>1 bolt $\frac{1}{2}$ in. dia. $3\frac{1}{2}$ in. long, sq. head</p> <p>1 piece hook, bent iron $\frac{3}{8}$ in. x $\frac{1}{2}$ in.</p> <p></p> <p>1 sawed off cow horn core, $3\frac{1}{4}$ in. long</p> <p></p>

TABLE 4

ARTIFACTS FROM THE HOUSE

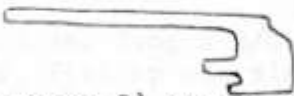

FS #	Provenience	Description
15	Trench over photo lab and entry passageway. Surface to one foot depth.	<p>39 3-inch square nails, sq. heads 1 horseshoe nail 12 2½-inch square nails, sq. heads 4 3½-inch square nails, sq. heads 5 1/8-inch square nails, sq. heads 1 5-inch square nail, sq. head, broken 2 1-inch square nails, sq. heads 6 broken pieces square nails 1 2¼-inch round nail 1 piece blue glass, bottle side and bottom 2 small brown pieces of bottle 1 piece petrified wood 1 heavy metal piece 11¼-inches long x 1-inch wide x ½-inch thick 1 broken metal piece as shown, similar to one FS 40 specimen</p>  <p>1 lid (baking powder ?) round, 2¼ in. diameter 1 small piece from tin can 1 tiny smashed tin can 1 piece heavy metal, curved, about 4 in. x 1 inch 1 harmonica piece 4 3/4 inches x 1 inch with 4 nail holes and 10 tone slits 1 .45-75 WRA Co. shell 1 .38-55 UMC Co shell 1 30 WCF - WRA Co. shell 1 44 unmarked shell</p>
16	The fill material in the passageway into photo lab, near entry ladder.	<p>13 small pieces window glass 1 narrow neck of bottle (medicine?) 1 3/8-inch depth piece of white porcelain (bottom of pot?)</p>  <p>17 pieces heavy brown glass 5 tiny pieces blue bottle glass 3 pieces heavy clear bottle glass 2 thin pieces clear bottle glass 3 1-inch screws 2 1½-inch screws 6 5-inch square nails, sq. heads 3 1/8-inch square nails, sq. heads 91 3-inch square nails, sq. heads 56 2½-inch square nails, sq. heads 10 2-inch square nails, sq. heads 3 1-inch square nails, sq. heads 41 broken pieces of square nails</p>

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE


FS #	Provenience	Description
16 cont.	The fill material in the passageway into photo lab, near entry ladder.	1 3-inch round nail 1 heavy metal hook, one end a spike, about $4\frac{1}{2}$ inch length, $\frac{1}{4}$ -inch dia. 
		1 tin can lid, cut edge, $3\frac{1}{2}$ -inch dia. 3 scraps of tin 1 $\frac{1}{2}$ -inch dia. round flat tin 2 UMC Co 44 shell cases 2 UMC Co .38-55 shell cases 2 Peters .38-40 shell cases 1 WRA Co. .40-82 shell cases 1 WRA Co. .45-90 shell case 1 unknown shell case
17	From the brick & mortar rubble over the passageway near the north end of photo lab.	2 2-inch round nails, round heads 1 5-inch square nail, sq. head 2 $3\frac{1}{2}$ -inch square nails, sq. heads 73 3-inch square nails, sq. heads 53 $2\frac{1}{2}$ -inch square nails, sq. heads 4 2-inch square nails, sq. heads 5 1-inch square nails, sq. heads 43 broken pieces of square nails 1 1-inch screw 1 $2\frac{1}{4}$ -inch round nail 1 45 Colt UMC. Co. shell case 2 .38-40 Peters Co. shell cases 1 .38 UMC Co. shell case 1 piece $6\frac{1}{2}$ inches long heavy ga. wire 1 piece $7\frac{1}{2}$ inches long heavy ga. wire 1 piece 3 inches long heavy ga. wire 4 pieces tin can 1 piece smashed tin, 4 in. x 3 in., doubled over 1 diamond-shaped piece of iron, 2 in. x 1 in. 1 neck of bottle, blue, clear, part of Dr. Pierce's 19 pieces of window glass 14 pieces clear bottle glass, one piece large "H" 1 clear glass bottle neck, broken 22 brown bottle glass 1 brown bottle neck 1 piece blue clear glass with letters: ITE - TION (see FS 37)

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
18	Fill over the south end of photo lab. Surface to 16 inches deep.	2 3-inch square nails, sq. heads 2 small shreds of bone material
19	Over the southern half of cellar, overlying both cellar rooms but mostly over the storage room.	1 bottle, 1 7/8 inches high, 1 inch max. width, neck 1/4 inch. Lettered in glass as: <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>C. H. COOPE & CO USA LOWELL MASS</p> <p>one side</p> </div> <div style="text-align: center;"> <p>HOOPE'S PILLS EXSE 246 CURE LIVER ILLS</p> <p>other side</p> </div> </div> 1 fragment small glass tube bottle, 5/8 in. dia. 1 "Tuxedo" tobacco can, 7/8 oz., hinge top 2 pieces slate 2 to 3 square inches 12 fragments clear glass bottle; graduated probably rounded square, at least 700 CC 9 pieces flat window glass 1 1-inch flat head screw 1 piece white porcelain, part of a dish 1 piece brown bottle 1 square nut, 3/4 sq., hole, 3/8 dia. 3 45-60 shell cases, 1 WRA, 2 unmarked 1 3/8 in. iron rod, 6 3/4 in. long 1 rectangular tin can top, 2 in. x 4 in. 1 piece lid, about 3 1/2 in. dia., edge rolled around wire 1 piece sheet metal, 1/8 in. thick, 9 in. x 1 1/2 in.; 1 hole 2 in. from end 93 3-inch square nails 4 4-inch square nails 68 2 1/2-inch square nails 45 broken pieces square nails 2 2-inch square nails 1 2-inch round nail 1 1 1/2-inch square nail 1 1-inch square nail 1 4-inch round nail 2 3-inch round nails 1 piece 1 1/2 inches med. ga. wire
20	The fill within the cellar storage room.	2 38-40 Peters Co. shell cases 1 small round can, 2 pieces fit into each other, 1 1/8 in. dia. 1/4 in. thick (ointment, medicine?) 1 flat tin, folded, 4 1/2 in. x 6 in. (tin box?)

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE



FS #	Provenience	Description
20	The fill within	2 pieces can, 4-in. dia.
cont.	the cellar storage	1 can lid, 3-in. dia.
	room.	3 pieces tin from cans
		1 piece metal sheeting 1/8 in. thick
		 3 1/2" long
		21 pieces flat window glass
		18 lavender tinted bottle glass
		23 green tinted clear bottle glass, one
		bottom piece as: 
		2 pieces brown glass, one of neck, one
		of base
		1 piece med. ga. wire, 3 1/2 inches long
		2 small pieces tin can
		1 1 1/4 inch flat head screw
		1 horseshoe nail
		1 round 4-inch nail
		2 5-inch square nails
		1 3 1/2-inch square nail
		1 4-inch square nail
		49 3-inch square nails
		30 2 1/2-inch square nails
		1 2-inch round nail
		3 2-inch square nails
		1 1 1/2-inch square nail
		9 1-inch square nails
		2 carpet tacks
		48 broken pieces square nails
21	Clearing within	1 1 1/2-inch round nail
	the house under	5 5-inch square nails
	kitchen near back	10 3-inch square nails
	door stoop.	9 2 1/2-inch square nails
		2 1-inch square nails
		6 broken pieces square nails
		1 round tin can top, 3 1/4 in. dia.
		11 pieces of tin cans
		1 large outside square nut, 1 1/4-inch
		outside, 3/4 in. thick; hole in
		center 3/4 in. dia, threaded
		1 piece window glass
		2 pieces bottle glass
		1 .30-30 Peters Co. shell case
22	Entryway into	3 5-inch square nails
	photo lab below	1 4 1/8-inch square nail
	most of brick	1 4-inch square nail
	rubble.	2 3 1/2-inch square nails
		8 1-inch square nails
		49 2-inch square nails
		153 3-inch square nails

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

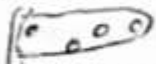
FS #	Provenience	Description
22	Entryway into	1 1-inch screw
cont.	photo lab below	1 1½-inch screw
	most of brick	32 broken pieces of square nails
	rubble.	1 piece medium wire, 5 inches long
		1 piece medium wire, 18 inches long
		1 piece medium wire, 2½ inches long
		1 piece medium wire, 3½ inches long
		1 piece medium wire, 1½ inches long
		1 piece heavy wire, 1-inch long
		1 piece heavy wire, 3 inches long
		1 hinge 4½ inches long, bolt intact
		
		4 pieces tin can
		1 rectangular piece of tin, thin, 4 in. x 1 3/4 in.
		1 piece green-glazed pottery, broken
		5 pieces window glass
		15 pieces green bottle glass
		2 pieces thin green bottle glass
		Bone--sheep antler?--skull
		1 small bag of egg shell fragments
		1 4½ in. round tin can, smashed
		1 4 3/4 in. round tin can, whole, 3½ in. dia.
		1 4 3/4 in. round tin can, whole, 3½ in. dia., label intact: OYSTERS
		1 tin lid, 5½ in. dia. round
		1 fragment of leather
		1 sq. of tin with edges turned under, 9½ in. square
		2 3½ in. square nails
		11 3-inch square nails
		6 2½ inch square nails
		7 broken ends and pieces square nails
		1 2-inch round nail
		1 piece clear heavy bottle glass
		1 piece clear blue heavy bottom of jar, probably 2-qt. size
		1 portion of 4½ in. tall tin can, 3½ in. dia.
		1 round piece tin, top of 4 in. dia. can
		1 bottom or top of round 4½ in. dia. can
		1 bottom or top of round 1½ in. dia can, (snuff?), 1 in. deep
		2 pieces of heavy wire twisted together at ends, about 18 in. long each piece
		2 pieces medium wire, looped together

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
23	Doorway area into photo lab, 24 in. to 30 in. below surface, under brick and mortar rubble.	1 steel pin, flattened head, 7-inch, (wagon pin?) 8 pieces pencil graphite 1 shoe, woman's, hooked, (Size 4?) 1 piece cloth, blue 1 bottle neck, flanged, $\frac{1}{2}$ inch opening 8 pieces clear bottle glass 1 piece white, opaque bottle glass 1 piece lantern mantle 1 steel tap, woman's shoe 8 $2\frac{1}{4}$ -inch square nails 1 $3\frac{1}{2}$ -inch square nail 1 3-inch square nail 31 pieces broken square nails 53 3-inch square nails
24	Fill over cellar storage room and steps, 15 to 24 in. below surface in depression.	4 pieces round bottle glass 1 bottle neck from square bottle 17 pieces flat metal 1 brass rivet, $\frac{1}{2}$ inch, attached leather 21 pieces lamp mantles 1 fish hook without barb 1 flat piece of metal $11\frac{1}{2}$ in. x 9 in. 1 metal bucket bottom, 8 in. dia. 2 pieces round metal can 1 round metal can 1 bolt, metal, round head 2 5-inch square nails 1 4-inch square nail 7 2-inch square nails 1 $3\frac{1}{2}$ inch round nail 1 $2\frac{1}{2}$ -inch round nail 3 $1\frac{1}{2}$ -inch round nails 1 2-inch square nail 12 1-inch square nails 30 3-inch square nails 44 broken pieces square nails
25	Outside west wall of house, area north of back door stoop.	1 axe head, single bit 1 piece chalcedony 2 pieces agatized wood 1 piece wine bottle 1 .50-95 WRA Co. shell case 1 .45-60 WRA Co. shell case 1 .40-80 WRA Co. shell case 1 .40-60 WRA Co. shell case 5 .44 WRA Co. shell cases 3 .32 UMC shell cases 2 .22 rimfire "U" shell cases 1 leather heel from a riding boot 1 5-inch square nail 2 $3\frac{1}{2}$ -inch square nails

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
25	Outside west wall	3 1 3/4-inch square nails
cont.	of house, area	13 2-inch square nails
	north of back door	32 3-inch square nails
	stoop.	57 2 1/2-inch square nails
		50 1-inch square nails
		1 crescentic metal piece, "6 shoe"
		1 metal strap, curved
		1 metal hook
		64 broken pieces of square nails
		1 metal harness hook, in 2 pieces
		3 pieces round bottle glass, green
		1 piece metal wire, 2 1/2 inches long
		1 piece chalcedony
		1 shell button, 2 holes
		7 pieces white porcelain ware
		13 pieces white porcelain ware with blue pattern
		35 pieces window glass
		2 pieces clear bottle glass
		3 metal bucket or can lids, 3 1/2 in., 4 in., 6 in.
26	Outside west wall	1 1 3/4 in. round nail
	of house, near the	1 2 1/2 in. round nail
	northeast corner.	1 5-inch round nail
		1 5-inch square nail
		24 3-inch square nails
		8 2 1/2-inch square nails
		3 2-inch square nails
		29 1-inch square nails
		28 broken pieces of square nails
		1 4-hole white button 3/8 in. dia.
		1 small bucket handle, wire
		1 piece medium ga. wire, 6-in. length
		5 small pieces tin can
		1 edge tin can
		5 pieces of one large bone, shreds only
		1 shell case A, 2-in. long
		19 pieces window glass, small
		2 pieces clear cut glass, design same as on FS 34
		1 clear plain glass, piece of dish or bottle
		19 pieces white porcelain, blue flower design on some
		2 large edge pieces of pottery, curved, heavy (part of a chamber pot?)

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE




FS #	Provenience	Description
27	Within house walls northwest quarter of house area.	28 4 1/8-inch square nails, sq. heads 3 1/4-inch square nails 4 3/2-inch square nails 417 3-inch square nails 254 2 1/2-inch square nails 7 2-inch square nails 13 1-inch square nails 1 2 1/2-inch round nail 55 broken ends of square nails 1 horseshoe nail, bent, about 2 inches 3 pieces fine wire, total length 24 in. 1 piece med. ga. wire about 8 in., twisted 1 lid from kerosene can 2 tops of tin cans 17 pieces of tin cans 1 UMC Co. No. 12 New Club shell case 2 UMC .40-60 shell cases 1 WRA Co. .40-70 shell case 1 WRA Co. .40-65 shell case 2 Colt .45 shell cases 2 unknown, unmarked shell cases 1 metal fork handle (tableware) 1 suspender buckle 1 glass button, black 1 metal, hand-made ring 1 buckle part 1 small carved wooden boat, child's toy, about 5 inches in length 54 glass pieces (2 of cut glass which was probably a fruit dish or vase; 1 bottom section of bottle with letters "ODS") Bone material
28	Outside east wall of house, near north-east corner.	1 door latch  1 door latch, spring door  1 .50 shell, unmarked 1 .45 Colt WRA shell case 1 .32 UMC Co. shell case 2 .32 S & W WRA Co. shell case 1 piece of metal off door knob shaft  1 teaspoon (bowl only) 1 snap from an overall suspender 1 piece of med. ga. wire, 6 inches long 3 pieces washer off grindstone

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE


FS #	Provenience	Description
28 cont.	Outside east wall of house, near northeast corner.	<p>1 heavy wire hook (for closing gate?) also 1-inch staple, $\frac{1}{4}$ in. dia.</p> <p>1 piece brass rivet - head 2 pieces petrified wood 1 handle  5" long 1/2" diameter</p> <p>1 round screw, 1-in. flat head 3 pieces brown glass, bottom of wine bottle 2 pieces blue glass bottle 1 piece flat window glass 3 horseshoe nails 3 1/4-inch square nails 16 3-inch square nails 6 2 1/2-inch square nails 24 2-inch square nails 4 2 1/2-inch square nails 3 1-inch square nails 23 broken pieces of square nails 4 2-inch round nails 3 1-inch round nails 1 wing of hinge, 2 1/2 inches long, 1 inch wide 1 7-inches long piece oval section of metal (piece of grate?) 3/4 in. wide 1 piece can (pail?) 3 1/2 inches long x 1/2 inch wide</p>
29	Along the north wall, but outside the house area.	<p>1 piece fabric 3/8 in. wide, holes, looks like watch strap (soutash braid? trim?) 2 small pieces ($\frac{1}{2} \times \frac{1}{2}$) leather strap, one with hole 1 piece glass tube, $\frac{1}{4}$ in. dia., 1 1/2 in. long 1 brass hinge (1 1/4 in. x 3/4 in.) 2 holes each flange 1 broken hook $\frac{1}{4}$ in. dia., 1 1/2 in. wide</p> <p>1 boot heel, small, 1 3/8 in. long x 1 1/2 in. wide, (woman's?) 3 shell cases, unmarked 1 piece metal rod 3/8 x 1/2 x 16 3/4 1 flattened out tin (pail?) 7 x 13 circum. 1 piece off suspender, snaps over fabric 1 clamp off wagon box, fits over front axle, 4 inches wide 3 fragments petrified wood 6 pieces of wire, med. gauge</p>

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE


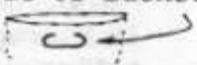



FS #	Provenience	Description
29 cont.	Along the north wall, but outside the house area.	<p>1 cast iron, 2 chain links</p>  <p>2 round nails $3\frac{1}{2}$ inches long 2 round nails $1\frac{1}{2}$ inches long 4 round nails 2 inches long 5 horseshoe nails 1 1-inch flat head screw 8 3-inch square nails 8 $2\frac{1}{2}$-inch square nails 4 2-inch square nails 8 $1\frac{1}{2}$ inch square nails 8 1-inch square nails 16 pieces of square nails 12 pieces window glass 2 pieces fine, curved bottle glass 4 pieces black, heavy bottle glass 1 piece brown glass 1 handle of side of bucket, $2\frac{1}{2}$ inches wide</p>  <p>12 mixed pieces tin cans 1 piece mica ($\frac{3}{4}$ in. x $\frac{3}{8}$ in.) or resin? 5 pieces flat, heavy tin (box?) 4 pieces rim from square cans, center holes with lid (cocoa can?) 1 piece plate off reach on wagon, stop wear, 7 in. long, 3 in. wide, 5 holes one for big pin 1 (hanger?) ratchet?) $2\frac{1}{8}$ in. long</p>  <p>1 piece of latch</p>  <p>1 piece big washer off side grindstones 1 metal rod 6 in. x $\frac{1}{2}$ in. dia. 1 metal piece $4\frac{3}{4}$ in. long x $\frac{3}{4}$ in. wide</p>  <p>1 piece rim off something, cast, 3 in. long, about 12 to 15 in. dia. 2 pieces metal strip, $1\frac{1}{4}$ in. wide; 8 in. and 11 in.</p>

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
30	Over lower steps and 12-18 in. above floor in storage room of cellar.	2 pieces stell wire 5 pieces flat steel, rolled edges, 9 in. x 9 in. 1 pill case, metal, 1½ in. dia. 4 pieces clear bottle glass 1 metal can, rectangular, 3½ in. x 2¼ in. 5 in. high 1 piece metal, unidentified 1 piece clear glass, castellated rim (see FS-41) 2 pieces corset hook 1 wood screw, flat head, 1/8 in., 3/4 in. long 1 wood screw, flat head, 1/16 in., ½ in. long 11 2½-inch square nails 1 3½-inch square nail 65 3-inch square nails 2 1-inch square nails 55 broken pieces square nails
31	Immediately below FS-30, over floor in storage room in cellar.	1 clear glass bottle, "Hood's Sarsaparilla" "C. I. Hood & Co., Apothecaries, Lowell, Mass." bottom stamped "97" 1 clear glass inkwell, etched 1 clear glass bottle, pint size 1 clear glass bottle, bottom and broken sides, rectangular shape 1 bottle, bottom and broken side, round, brown, clear 2 .45-60 WRA shell cases 1 .45-75 WRA shell case 1 .45-60 WRA shell case 1 .38-40 Peters shell case 1 galosh buckle 1 piece square clear glass bottle 1 piece square lavender tinted glass bottle 1 piece glass bottle, oval 1 bottle neck, flanged, 3/8 in. opening 1 .50 EX. UMC shell case 1 teaspoon, tinplated steel; handle & bowl separated 6 pieces clear bottle glass 8 pieces clear lamp mantle glass 7 pieces pie plate, metal, 8 in. dia. 12 3-inch square nails 7 2½-inch square nails 1 wood screw, flat head, 2½ in. 3 1½-inch square nails 1 4-inch square nail

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
31 cont.	Immediately below FS 30, over floor in storage room in cellar.	7 broken pieces square nails 7 pieces tin, flat 1 tin can $4\frac{1}{2}$ in. tall, 3 in. dia. 1 tin can lid, 3 in. dia. 1 rectangular tin can $4\frac{1}{4}$ in. x 3 in. x 1 in. deep (sardines?) 8 3-inch square nails 6 $2\frac{1}{2}$ inch square nails 17 1-inch square nails 4 broken ends of square nails 2 pieces of window glass 2 pieces blue, clear bottle glass 8 pieces clear bottle glass 4 pieces clear fine glass, all curved, one piece an edge with design same as FS 41 2 broken pieces of tall bottle, brown glass, one piece is the neck 1 complete shoe polish bottle with stopper and dauber 2 complete quart wine bottles
32	On floor or im- mediately above floor level in cellar storage room.	1 4-inch square nail 19 3-inch square nails 23 $2\frac{1}{2}$ -inch square nails 1 1-inch square nail 2 carpet tacks 15 broken ends of square nails 1 piece clear glass, edge piece, same as F.S. 41. 2 unidentifiable fragments of leather or rubber Bone material
33	Over southern end of cellar storage room, 18 inches above floor.	1 .38-40 Peters shell case 1 .32 rimfire "H", shell case 1 galosh buckle (2 pieces, complete) 9 1-inch square nails 2 2-inch square nails 42 3-inch square nails 61 $2\frac{1}{2}$ -inch square nails 35 broken ends of square nails 1 metal rod $1/16$ in., $7\frac{1}{4}$ in. long 3 pieces zinc sheeting 10 pieces shoe leather, including eyes 6 pieces window glass 7 pieces lamp mantle 1 brass washer $\frac{1}{2}$ in. 1 piece white porcelain 1 piece castellated rim, clear glass 3 pieces smoked glass

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
34	Along southern	2 4 1/8 inch square nails
8	wall of house.	1 5-inch square nail
35	Outside.	28 3-inch square nails
		17 2 1/2-inch square nails
		9 2-inch square nails
		16 1-inch square nails
		17 3 1/2-inch square nails
		1 2-inch square bottle, 6 1/4 in. high, 4 3/4 in. to shoulder, narrow neck, says: H.J. FRASER CHEMIST & DRUGGIST OTTAWA
		1 half of a 2-inch safety pin
		7 broken ends of square nails
		2 2 1/2-inch round nails
		1 3-inch round nail
		1 2-inch round nail
		1 round bolt, 6-inch shaft, 1/2 in. dia. threaded one end for 1 1/2 in., square shaft 1/2 in. from head, head 1 1/2 in. dia.
		1 metal fork, 3-prong
		1 part of dinner knife
		1 handle of spoon
		19 misc. pieces of tin (parts of cans, lids, etc.)
		1 lid 4-in. dia with 2-in. hole in middle, round
		4 lids 2 1/2 in. dia, edges cut as by can opener, round
		1 lid, rectangular 4 1/4 in. x 2 1/2 in.
		1 can 4 1/2 in. x 3 in. rectangular, opened on top (sardines?)
		1 round can 3 in. dia., 3 1/4 in. high (milk?)
		1 lid 4 1/2 in. dia. round
		1 lid 3 1/2 in. dia. round
		1 pot handle, hole in end, 8 3/4 in. long, 1 in. wide
		1 wire lantern handle
		1 piece rolled metal (sardine lid?)
		1 metal strip 3/4 in. wide, about 9 in. long
		1 metal cone, part of pitch fork or shovel, filled with wood, 4 1/2 in. long, 1 1/2 in. dia. one end, 1 in. dia. other end.
		1 metal ring 1/4 in. metal with 2 in. dia., piece of wire attached 5 in. long

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
34	Along southern wall of house.	1 half of metal buckle, 2 in. high of 3/8 in. metal
8		
35	Outside.	1 piece of copper, very thin, 3 holes spaced in a triangle about 1/2 in. apart, copper piece is about 1 1/2 in. square
		1 leather heel, 2 in. across, 1 1/4 in. high, composed of layers of leather
		1 leather heel, 2 in. across, 1/4 in. high attached to small section of leather
		1 2/5 in. dia. double circle metal, look like rabbit droppings
		1 small piece of rubber jar ring
		1 wad lead foil
		3 pieces fine ga. wire, short, 1 piece twisted about 3 in. long
		16 pieces flat glass, probably window
		11 pieces of white glass, probably bottle
		1 piece light blue glass
		1 piece yellow glass
		3 pieces cut glass (sugar bowl?)
		1 heavy porcelain handle, white, probably from a large water pitcher
		49 pieces white porcelain, some with painted blue flower design
		1 .22 shell case
		3 .40-65 WRA Co. shell cases
		1 unmarked (2 1/2 in. long) shell case
		2 .40-60 WRA Co. shell cases
		33 unmarked, unknown, shell cases
		1 12-ga. UMC Co. Club shell case
		Bone material
		1 cutting piece from sickle bar
		1 metal strip 5 in. x 1 1/4 in.
		1 shoe sole, man's size 8?
		3 pieces slat
		3 pieces metal wire
		1 piece leather, unidentified
		2 metal rods, 1/16 in. dia.
		1 log spike, metal, roundhead, 9 in.
		1 metal bolt, round head, 1 in.
		1 metal bolt, round head, 6 in.
		1 white porcelain rim sherd
		1 steel plate 1/16 in. stock, 3 in. x 4 3/4 in., perforated off center with 5/8 in. hole
		1 .22 cartridge case
		6 .22 rimfire Kleanbore shell cases
		1 .32 pistol shell case
		2 .45 shell cases

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
34	Along southern	3 .44 shell cases
&	wall of house.	2 .40-60 UMC shell cases
35	Outside.	3 .45-90 WRA shell cases
cont.		3 .45-60 WRA shell cases
		2 .45-70 WRA shell cases
		2 .40-60 WRA shell cases
		1 cartridge with load, .38 pistol, ball nose
		2 pieces agatized wood
		1 metal loop
		1 washer, brass, $\frac{1}{4}$ in.
		1 can top, sardine, rolled, no key
		1 metal bolt, round head, broken $5\frac{1}{2}$ in.
		4 pieces metal cap
		3 pieces porcelain, 1 rim
		4 1-inch square nails
		1 horseshoe nail
		4 2-inch square nails
		1 $2\frac{1}{2}$ -inch round nail
		1 $1\frac{1}{2}$ -inch round nail
		19 $2\frac{1}{4}$ -inch square nails
		1 $3\frac{1}{2}$ -inch square nail
		7 3-inch square nails
		7 $4\frac{1}{2}$ -inch square nails
		35 3-inch square nails
		31 broken ends of square nails
		45 pieces clear bottle glass
		4 pieces window glass
36	Inside cellar photo lab, below brick rubble but more than 18 inches above floor.	2 cans (oyster?), 5 in. tall, $4\frac{1}{2}$ in. dia., inset circle in base
		1 piece metal 5 in. long, $\frac{1}{2}$ in. wide at max.; tapers with hole in smallest end
		3 3-inch square nails
		4 $2\frac{1}{2}$ -inch square nails
		1 curved piece of bottle glass
37	Overlying stairway into west cellar storage room.	6 $4\frac{1}{8}$ -inch square nails
		20 3-inch square nails
		11 $2\frac{1}{2}$ -inch square nails
		8 2-inch square nails
		41 1-inch square nails
		2 5-inch square nails
		3 broken ends of square nails
		1 $2\frac{1}{2}$ -inch round nail
		1 .45-60 shell case
		1 piece fine ga. wire 4 in. long
		1 piece heavy ga. wire $8\frac{1}{2}$ in. long
		Bone material
		3 pieces window glass
		6 pieces brown heavy glass bottle

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
37 cont.	Overlying stairway into west cellar storage room.	27 pieces clear bottle glass (two pcs. with label "preserves"; two pcs. with star stamped in glass; three pcs. joined together say: DR. PIE(RCES) FAVOR(ITE) PRESCRIP(TION)
38	Within the area that would have been under the eastern veranda.	56 3-inch square nails 3 1/8 in. square nails 26 2 1/2-inch square nails 3 1-inch square nails 1 2-inch square nail 12 broken ends square nails 1 tin can about 4 in. dia.; 4 3/4 in. high, smashed, round and opened 8 small pieces glass; 5 very fine, curved; 1 green and curved; 2 white heavier and curved bottle glass 1 thin strip metal 5 3/4 in. long, 3/4 in. wide 1 med. ga. wire 15 in. long 1 med. ga. wire 2 in. long 1 med. ga. wire 5 1/2 in. long 1 med. ga. wire 2 in. long 1 fine ga. wire 2 in. long Bone material. 2 4-inch square nails 3 3 1/2-inch square nails 5 2 1/2-inch square nails 10 1-inch square nails 1 1 1/2-inch square nail 13 3-inch square nails 6 broken ends of square nails 1 2-inch round nail 1 1 3/4-inch round nail 3 1 1/2-inch round nail 2 complete bucket handles, wire 2 broken bucket handles 1 piece med. ga. wire 17 1/2 inches long 1 piece med. ga. wire 3 1/2 inches long 1 piece med. ga. wire, twisted and coiled, 4 1/4 inches long 1 unknown shell case "SB" on bottom 1 .38 S & W UMC Co. shell case 3 unknown 1-inch long x 1/2 in. dia. 5 unknown, same as FS 27-A shell cases 4 .45-60 WRA Co. shell cases 4 .40-65 WRA Co. shell cases 3 .45-90 WRA Co. shell cases

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
38 cont.	Within the area that would have been under the eastern veranda.	7 small pieces of tin, all under $1\frac{1}{2}$ in. 2 small pieces of leather, under 1 inch 2 broken bottle necks, $\frac{3}{4}$ in. dia. neck 1 pot sherd, brown, $1 \times 1 \times \frac{1}{2} \times \frac{3}{8}$ in. thickness 12 small pieces window glass 11 pieces curved bottle glass 1 broken metal hook, $\frac{1}{4}$ in. dia. about $3\frac{5}{8}$ in. long 1 metal strip (pan handle?) $9\frac{1}{4}$ in. long, $\frac{3}{4}$ in. wide 1 long narrow bolt $5\frac{1}{8}$ in. long $\times \frac{1}{4}$ in. dia. 1 rectangular metal piece $\frac{1}{8}$ in. thick, $\frac{1}{4}$ in. long, 1 in. wide 1 piece spring, coiled 1 small buckle 1 in. $\times \frac{3}{4}$ in. 2 pieces of suspender buckle, $1\frac{1}{2}$ in. $\times \frac{3}{4}$ in. 1 piece petrified wood $2\frac{1}{2}$ in. $\times 1\frac{3}{4}$ in.
39	Outside eastern wall of house and immediately east of veranda.	2 $3\frac{1}{2}$ inch square nails 10 5-inch square nails 6 3-inch square nails 1 2-inch square nails 1 $1\frac{1}{2}$ -inch square nail 6 broken pieces square nails 1 round bolt $\frac{1}{2}$ in. thick, $\frac{1}{4}$ in. long, head $\frac{3}{4}$ in. dia. 8 small pieces of tin 1 rubber-soled shoe bottom with leather on top of rubber, man's size, rubber grooved in checker design 1 can, both rim edges intact but rest of can almost gone 2 metal clothes hooks, fancy, 1 whole and one broken, about 2 in. long 1 side edge clay pot 1 pipe bowl, clay, $1\frac{1}{2}$ in. tall, rounded, 1 in. dia. 1 unknown shell case 1 .45-70 WRA Co. shell case 2 .32 UMC Co. shell cases 3 .45 Colt shell cases 1 .45-60 WRA Co. shell case 1 .45-75 WRA Co. shell case Bone material.

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
39 cont.	Outside eastern wall of house and immediately east of veranda.	7 pieces window glass 5 pieces heavy white porcelain 1 white handle piece, about 1 inch 1 piece bottle top 4 pieces curved bottle glass
40	Inside area that would have been under eastern half of the house.	2 5-inch square nails 6 $\frac{1}{4}$ 1/8-inch square nails 9 $\frac{1}{4}$ 3-inch square nails 10 $2\frac{1}{2}$ -inch square nails 5 2-inch square nails 4 1-inch square nails 1 $1\frac{1}{2}$ -inch round nail 10 broken ends of square nails 1 round tin can top, 3 in. dia. 1 rectangular tobacco can top 3 in. x 1 " 1 piece tin scrap $1\frac{3}{4}$ in. x $\frac{5}{8}$ in. 1 square bolt $\frac{1}{2}$ in. thick x 2 in. long, square head 1 rivet-like with round head $\frac{1}{2}$ in. dia. $\frac{5}{8}$ in. long 1 piece heavy metal $\frac{1}{2}$ in. thick, $2\frac{1}{2}$ in. long x $\frac{3}{4}$ in. wide 1 piece of metal as shown: <div data-bbox="933 1029 1429 1165" data-label="Image"> </div>
41	Inside area covered by south piazza.	1 piece petrified wood 2 in. x $1\frac{1}{2}$ in. 2 .44 shell cases (1 unmarked; 1 WRA Co.) 1 .38-55 UMC Co. shell case 1 .40-65 WRA Co. shell case 1 .40-70 WRA Co. shell case 2 .45-75 (1 unmarked; 1 WRA Co.) shell cases 1 unknown shell case 1 .40-60 unmarked shell case 1 piece med. ga. wire, 2 inches long 1 piece top and side of small bottle, clear 7 white porcelain pieces (two rim pieces) 1 melted piece of glass 2 pieces brown glass 1 small piece milk glass 16 pieces window glass 7 pieces curved bottle glass
		1 5-inch square nail 6 $3\frac{1}{2}$ -inch square nails 28 3-inch square nails 6 $2\frac{1}{2}$ -inch square nails 1 2-inch square nail 1 $1\frac{1}{2}$ -inch square nail 10 1-inch square nails

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE

FS #	Provenience	Description
41 cont.	Inside area covered by south piazza.	1 horseshoe nail $2\frac{1}{2}$ in. 1 2-inch round nail 5 broken ends of square nails 1 suspender buckle 1 belt buckle with prong $2\frac{1}{4}$ in. x $1\frac{3}{8}$ 1 white 4-hole button $\frac{3}{8}$ in. dia. 1 piece metal hook about 1 in. long, $\frac{1}{8}$ in. thick 1 small piece metal $\frac{3}{8}$ in. thick x $\frac{3}{8}$ in. long 1 metal piece with hooked end $\frac{1}{8}$ in. thick, $4\frac{1}{2}$ in. long, $\frac{3}{8}$ in. wide 1 metal strip (pan handle?) $5\frac{1}{4}$ in. long $\frac{3}{4}$ in. wide 17 small unidentifiable pieces of leather 7 small pieces of tin cans 1 large tin can, smashed, $3\frac{1}{2}$ in. dia., 5 in. tall 43 small pieces window glass 1 small-necked broken bottle top 4 broken pieces of bottle 1 small white porcelain glass piece 1 white glass dish edge, fluted 1 piece twisted thin wire $2\frac{3}{4}$ in. long with metal ball at end 1 piece heavy ga. wire $9\frac{1}{2}$ in. long 1 piece med. ga. wire $5\frac{1}{2}$ in. long 1 piece med. ga. wire 15 in. long 1 piece med. ga. wire 4 in. long 1 piece extra heavy wire 12 in. long 1 small piece melted glass 2 pieces petrified wood 4 .44 shell cases (1 WRA Co.; 3 unmarked) 3 .32 UMC Co. shell cases 2 unknown shell cases 1 .40-60 WRA Co. shell case 1 .40-82 WRA Co. shell case 1 unfired bullet .40-82 WRA Co. 1 lead slug, smashed against rock or something hard Bone material.
42	In photo lab, cellar, 4 to 6 inches above floor.	1 piece glass, side of white bottle, "AD" on part 1 piece of bone 1 heel attached to part of a sole, child's 1 rubber inner sole, heel portion only, men's 1 rubber innersole, toe portion only, men's 5 pieces leather, small portions of shoe

TABLE 4 (continued)

ARTIFACTS FROM THE HOUSE


FS #	Provenience	Description
42 cont.	In photo lab, cellar, 4 to 6 inches above floor.	1 tin can, complete except for one end, 3½ in. dia. 4½ in. high 2 sheets of metal (zinc?) 16 in. x 6 in. and 13 3/4 in. x 8 in. 1 ink bottle "Sanford's 27" on bottom
43	Photo lab in cellar, floor level.	31 3-inch square nails 23 2½-inch square nails 1 1-inch square nail 6 broken pieces square nails 1 1-in. square piece melted metal 1 U-shaped piece of metal, 1/8 in. thick 5/8 in. between prongs, 2 in. long 1 1 1/8 in. piece tin can 1 shotgun shell case 10 ga. PC Co. Prize. 1 shoe, complete with rubber heel and sole, moccasin type (house slipper?) 1 piece white glass, top portion with rim edge 1 bottle bottom, 3 in. dia. lettered: A. SNIDER CINCINNATI, O. (P)RESERVES CO. 1 bottle edge, says: BUFF/ 5 very thin pieces of glass, probably from lantern mantle 1 piece blue glass from bottle 2 pieces thinner blue glass, one with large "S" on it Bone material extensive here.
?	West side of house, outside.	1 short latigo (where adjust cinch strap for size of horse) 1 piece of wool (sock?)
?	Floor in eastern half of the cellar.	1 mate to boot in FS 31 with heel and sole, right foot 2 pieces of two lady's shoes or boots, 9½ in. long, narrow 2½ in.; a pair 
?	Material in cellar, shown on flat map and in photos.	1 pail, 7 in. deep, 9 in. top dia., 7 in. bottom dia. 1 lid; dutch oven lid? 12 in. dia. stamped: G. E. Filley St. Louis, Mo. handle extends 4 in. up from lid 1 iron bar 15½ in. x 3/4 in. x ½ in.

TABLE 5

ARTIFACTS FROM THE BARN

FS #	Provenience	Description
46	Material from the barn and its immediate area.	<p>1 .32 S & W WRA Co. shell case</p> <p>1 silver-plated teaspoon, Sheffield Plate Co.</p> <p>2 5-inch square nails</p> <p>43 4 1/8 inch nails, square</p> <p>1 railroad spike</p> <p>21 3 1/2-inch square nails</p> <p>7 3-inch square nails</p> <p>2 2 1/2-inch square nails</p> <p>11 broken pieces of nails</p> <p>2 horseshoe nails</p> <p>1 heavy (1/4 in. dia.) wire bucket handle, 10 inch wide bucket</p> <p>1 piece twisted wire, med. ga., about 8 inches long</p> <p>1 half a horseshoe, badly worn</p> <p>2 1-inch strap buckles with prongs</p> <p>1 snap harness hook</p> <p>1 white button (underwear) 1/2 in. dia. 4 holes</p> <p>5 pieces of shallow pan, 1 1/4 in. deep (cake pan?)</p> <p>1 piece broken off bottom of fork or shovel 3 in. x 1 1/2 in. dia. conical fit</p> <p>1 spool-like, for strap</p> <p>1 piece tin plate</p> <p>1 piece glass bottle, badly melted</p> <p>1 bottle neck, threaded top, 7/8 in. hole</p> <p>2 bottle necks, pouring lip; 3/4 in. dia., 1 in. dia.</p> <p>1 half bottle neck, melted, blue</p> <p>8 pieces clear bottle glass</p> <p>3 pieces porcelain, white, ribbed, fabric design inside, plain lip, small-- can't have been more than 1-1 1/2 in. deep</p> <p>1 15-inch piece of leather</p> <p>3 1 1/2-inch strips, wrapped and secured in a fourth piece of leather</p>



TABLE 6

ARTIFACTS FROM THE FENCES AND CORRALS

FS #	Provenience	Description
47	Along the eastern corral fence and in the area immediately east.	3 .45-60 UMC shell cases 2 .40-60 UMC shell cases 1 .44 WRA shell case 1 3½-inch square nail 1 2 3/4-inch square nail 1 2½-inch square nail 1 2-inch square nail 1 1½-inch square nail 1 lard bucket, no top, no bottom; inscription: "N. K. FAIRBANK CO. Prime Refined Family Lard. New York" 1 piece sandstone with fossil impression of leaf 1 piece steel casting ladle with brass slug on sides 1 bucket bottom 6 3/4 in. diameter 1 piece tin can, side 1 piece tin can bottom or top 1 piece tin can top 1 piece tin can, top, perforated 1 piece cast iron, 2 in. x 1 3/4 in.
51	Around posts in fence line west of house.	1 horseshoe, 5 in. max. width, 5½ in. long, pronounced flanges 4 pieces white porcelain dish 1 tin cup, badly corroded 1 perforated top off salt shaker 1 strip metal 1 in. wide, 11 in. long, 2 pieces riveted together (off keg?) 3 .44 shell cases unmarked
52	From fence line along south side of house, opposite veranda.	1 clear glass bottle neck, 1½ in. dia with cork in top 1 clear piece of bottle glass, bottom, stamped: H. J. HEINZ 52 7 pieces heavy brown pottery 3/8 in. thick; one a rim sherd 1 4-in. dia. tin can top 1 piece 5-inch tall smashed tin can 2 3-inch square nails 1 large metal hook with chain attached, hook is 5½ in. long 2 .32 WRA Co. shell cases 1 .44 shell case, unmarked 2 .45-90 WRA Co. shell cases 1 .40-82 WRA Co. shell case 1 .45-70 shell case, unmarked

TABLE 6 (continued)

ARTIFACTS FROM THE FENCES AND CORRALS		
FS #	Provenience	Description
54	Fence line east of house, opposite veranda.	1 5-inch square nail
		1 .45-90 WRA Co. shell case
		1 shell unknown
55	Post no. 34 in corral.	1 bridle ring, 3-inch dia., 3-inch prong
		1 piece of stove pipe

TABLE 7

ARTIFACTS FROM THE UTILITY SHED AND PEN (CHICKEN COOP)

FS #	Provenience	Description
48	Burned area, pen and utility shed mixed.	1 5-inch square nail
		3 4-inch square nails
		12 3½-inch square nails
		4 2-inch square nails
		1 1½-inch square nail
		18 broken ends of square nails
		1 horseshoe nail
		7 .40-82 WRA Co. shell cases
		1 .30 UMC Co shell case
		8 pieces of glass twisted in shapeless forms from extreme heat
		4 white pieces of porcelain
		1 green glass bottle neck, with cork, 1 in. dia.
		1 clear glass bottle neck, 7/8 in. dia.
		1 clear glass bottle neck, lavender tinted, 1 in. dia. opening with 1½ in. dia. rim at top
		1 heavy brown glass bottom of bottle with indent in bottom (wine?)
		3 pieces brown curved bottle glass, heavy
		6 pieces dark green heavy curved bottle glass
		23 pieces clear bottle glass
		6 pieces green and brown glass from neck curve (1) and bottom (5)
		3 bottom pieces of bottles, the curve indicates a very small bottle (1 in. dia. at bottom) with a nipple-like projection inside; bottle ¾ in. high

TABLE 7 (continued)

ARTIFACTS FROM THE UTILITY SHED AND PEN (CHICKEN COOP)


FS #	Provenience	Description
48 cont.	Burned area, pen and utility shed mixed.	<p>1 dinner knife, $9\frac{1}{2}$ in. long, $5\frac{1}{2}$ in. blade, $7/8$ in. wide</p> <p>1 eversharp pencil, 5 in. long</p> <p>1 piece tin can</p> <p>1 piece tin can rectangular top of can</p> <p>1 tin can lid, stamped in tin: "PRICE'S CREAM BAKING POWDER LB."</p> <p>1 piece med. ga. wire, 7 in. long</p> <p>2 pieces $3/4$ in. wide metal stripping, (1) is $2\frac{3}{4}$ in. long (1) is $1\frac{1}{2}$ in. long; each piece has a 1 in. nail through it</p> <p>1 piece $3/4$ in. wide iron stripping, $9\frac{1}{2}$ in. long</p> <p>1 piece tin, small round top cut from can, $1\frac{1}{2}$ in. dia.</p> <p>1 bucket handle, 10 in. long</p> <p>1 piece twisted round iron $\frac{1}{4}$ in. dia. x $4\frac{1}{2}$ in. long</p> <p>1 ornate stove leg, 6 inches high</p> <p>1 cinch ring, $\frac{1}{4}$ in. dia., metal; $3\frac{1}{2}$ in. dia., $3\frac{1}{2}$ in. prong</p> <p>1 piece off door fixture (?), where latch fits in</p>  <p>1 looks like buckle with 2 staples (1 in.)</p> <p>1 piece cast iron (big pan?) lip and bottom turn, bowl would have been $3\frac{1}{2}$ in. deep, about 10 in. dia.</p>
49	Utility shed area.	<p>1 shovel blade (#2) flat shovel, $9\frac{1}{2}$ in. x 11 in.</p> <p>2 5-inch square nails</p> <p>3 4-inch square nails</p> <p>10 $3\frac{1}{2}$-inch square nails</p> <p>14 3-inch square nails</p> <p>1 $2\frac{1}{2}$-inch square nail</p> <p>14 2-inch square nails</p> <p>3 $1\frac{1}{2}$-inch square nails</p> <p>1 horseshoe nail, $2\frac{1}{2}$ inches long</p> <p>14 broken ends and pieces of nails</p> <p>1 5-inch round nail</p> <p>1 round bolt, $2\frac{3}{4}$ in. round head, $\frac{1}{4}$ in. dia. bolt, square shaft at head</p> <p>2 staples, 1 in.</p> <p>1 $\frac{1}{2}$ in. iron rod, threaded on end, bent (piece of hook?)</p> <p>1 11-inch long iron rod $3/8$ in. dia.</p> <p>1 overshoe buckle</p>

TABLE 7 (Continued)

ARTIFACTS FROM THE UTILITY SHED AND PEN (CHICKEN COOP)


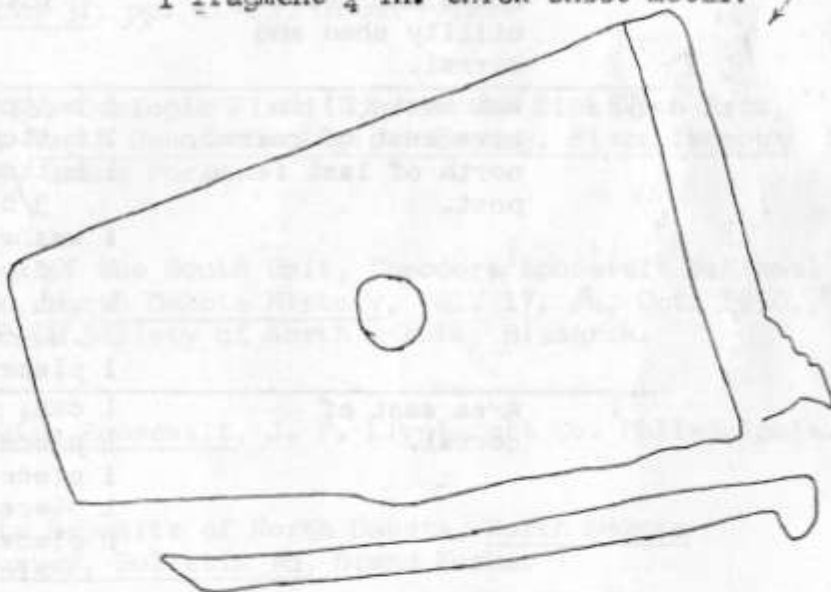
FS #	Provenience	Description
49 cont.	Utility shed area.	<p>1 iron, homemade, trowel 10 in. long, handle 1 $\frac{3}{4}$ in. wide, blade 5 $\frac{1}{2}$ in. long</p>  <p> 1 piece sheet iron, $\frac{1}{8}$ in. thick 1 $\frac{1}{4}$ in. x 3 $\frac{3}{4}$ in. 1 quirt handle, leather braided around metal, 7 in. long 1 picketing post for staking out horse (?) 19 $\frac{3}{4}$ in. long, $\frac{3}{4}$ in. dia. 1 leather punch, 8 in. long 1 broken piece metal (grate?), 5 in. long 1 12-ga. UMC Co shotgun shell case 3 .44 shell cases (2, WRA Co.; 1, unmarked) 2 .45-90 unmarked shell cases 1 .40-60 UMC Co shell case 1 .40-60 WRA shell case 1 .40-82 WRA Co. shell case 1 .40-82 WCF shell case 2 small pieces white curved porcelain 5 pieces green heavy bottle, wine, neck and base 9 pieces brown heavy bottle glass, (wine?) 3 bottle necks, clear glass, extract or medicine, hole $\frac{1}{2}$ in. dia. 2 bases of bottles; 1, round 2 in. dia; 1, rectangular 2 $\frac{1}{2}$ x 1 $\frac{1}{4}$ 23 pieces of bottle glass 1 piece green bottle, indented side 1 piece clear glass bottle, bottom, 2 $\frac{1}{2}$ in. dia. 1 rim edge piece of glass 1 piece cut glass, bottom 3 pieces med. ga. wire, each about 6 in. 1 irregular metal sphere, rough, $\frac{3}{4}$ in. dia., musket bullet 1 piece cast metal (off stove?) 6 $\frac{1}{2}$ in. long x 2 $\frac{1}{4}$ in. wide 5 pieces metal stripping, little thicker than tin can; 8 $\frac{1}{2}$ in., 4 $\frac{3}{4}$ in., 6 $\frac{1}{4}$ in., folded 2 in. 5 pieces $\frac{3}{4}$ in. tin stripping, 3 with 2 nails in; 2 with one nail in each, $\frac{1}{2}$ to 3 inches 2 pieces $\frac{3}{4}$ in. tin stripping; 1 is 7 $\frac{1}{2}$ in; 1 about 9 in. with 4 nail holes in it. 1 piece iron stripping, heavier than tin, 11 inches long, folded, broken each end at nail hole </p>

TABLE 7 (continued)

ARTIFACTS FROM THE UTILITY SHED AND PEN (CHICKEN COOP)

FS #	Provenience	Description
49	Utility shed	1 piece of tin can bottom or top, 3 in. dia. center ring
cont.	area.	1 smashed can, 3 in. high
		1 smashed can, 4 in. dia., 2½ in. high
		3 pieces off can rims
		1 can 1 3/4 in. dia., 5/8 in. deep-- ointment can
		1 cinch ring 4½ in. dia., pin 4½ in.
50	Pen (chicken coop).	1 cinch ring 3½ in. dia., prong 3½ in. ¼ in. dia. metal
		3 3½-inch square nails
		7 3-inch square nails
		4 broken pieces nails
		1 metal ring and eraser off lead pencil
		1 .44 shell case, unmarked
		3 pieces of bottle necks, one is 1 in. dia.
		5 pieces of melted glass
		6 pieces curved bottle glass
		1 fragment ¼ in. thick sheet metal: 7



1 hook (?) unknown, 1½ in. x 4 in. x 1/8 in. dia.

TABLE 8

ARTIFACTS FROM THE SURFACE

FS #	Provenience	Description
53	Area just south of utility shed.	13 deer bones 1 .45 Colt WRA shell case 2 .40-82 WRA Co. shell cases 1 glass vial, melted from heat, contains brown powder 1 4-inch square nail 1 3-inch square nail 2 broken ends square nails 1 pearl, 4-hole button, 3/8 in. dia. 1 bolt, screw head with square nut; bolt 1 1/2 in. x 1/4 in. dia; nut 1/2 in. 1 piece overshoe buckle 1 strip tin 3/4 in. x 3 in. long 3 pieces tin cans 1 piece med. ga. wire, 12 in. long 1 1/2 in. nut, 1/4 in. hole 1 9 inch tin plate 1 1/4 in. dia. metal rod, 12 in. long, slight curve on end
56	Surface north of house and between utility shed and corral.	6 pieces white porcelain, heavy; big pitcher or thunder mug
57	Rat nest (?) in area east of corral, north of last fence post.	1 button, 4-hole, 1/2 in. dia., white 2 buttons, 4-hole, 3/8 in. dia., white 1 button, 4-hole, gray marble, tapered, 3/8 in. dia. 1 washer ? overall button, metal ? 1/2 in. dia. 4 .44 unmarked shell cases 1 .40-60 UMC shell case 1 piece ribbed glass (side of dish ?)
?	Area east of corral.	1 can, round, metal 4 pieces metal can 1 piece square bottle glass 1 piece bottle glass, fluted 4 pieces white porcelain; including one rim sherd

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Roosevelt, Theodore

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1889 Ranch Life and the Hunting Trail, New York.

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Appendix 1

Two hundred and thirty cartridges were recovered from our excavations and off the surface around the buildings. Unquestionably the majority of these shell cases date from the years that Roosevelt operated the Elkhorn Ranch. However, game animals, particularly deer, are still numerous along the wooded river flats, and every year the area is hunted heavily during the big game season. Thus some few cartridges probably were dropped very recently.

We found cartridges in association with all the structures. These are enumerated with the field specimens and their relationships were detailed there.

The following table summarizes data on the cartridge types found:

TABLE 9

CARTRIDGES

Number of cartridges found	Type	Firearms probably used
10 (total)	.22 rimfire long .22 C B Cap .22 W R F	1870 Ballard single shot 1885 Flobert 1890 Winchester rifle
2	.25-20	1885 Rimfire Stevens
1	.30-30	1894 Winchester carbine or rifle
1	.30-40	Krag; 1895 Winchester carbine or rifle
15 (total)	.32-20 .32 Special .32 rimfire long	1873 Winchester carbine or rifle 1894 Winchester carbine or rifle
8	.38-40	1873 Winchester carbine or rifle
4	.38-55	1894 Winchester carbine or rifle
3	.38	

Table 9 (continued)

CARTRIDGES		
Number of cartridges found	Type	Firearms probably used
17	.40-60	1876 Winchester rifle
9	.40-65	1886 Winchester carbine or rifle
2	.40-70	1886 Winchester carbine or rifle
1	.40-80	1886 Winchester carbine or rifle
15	.40-82	
33 (total)	.44	Smith and Wesson Russian Model pistol, 1873 Colt, Single action, Army
	.44-40	1873 Winchester carbine or rifle
	.44-90	1874 Sharps rifle
10 (total)	.45	1873 Colt, single action, Army
	.45-100-500	1874 Sharps rifle
19	.45-60	1876 Winchester carbine or rifle
5	.45-70	1886 Winchester carbine or rifle; Springfield 1873
5	.45-75	1876 Winchester carbine or rifle
12	.45-90	1886 Winchester carbine
2	.50-95	1876 Winchester
1	.50-110 Express	1886 Winchester carbine or rifle
1	10 guage shotgun	
3	12 guage shotgun	
51	markings on case unreadable or not present; probably mostly .44 and .45 calibers.	

Mr. Robert Gordon identified the cartridges and prepared the brief appendix which follows. To the best of my knowledge we gave Mr. Gordon at least one sample of every variety of shell case that was found.

CARTRIDGES AT THE ELKHORN RANCH SITE

by

Robert G. Gordon, Jr.

This appendix is divided into three parts; the first consists of a little general information about Theodore Roosevelt's weapons at the time he entered the North Dakota badlands and his preferences in guns. The second part is general information about the cartridges found at the Elkhorn Ranch, drawings of these, and sketches of the guns into which the cartridges were introduced. Measurements of the shell cases as shown in this report may not be exact due to the age and condition of some of the samples. But I believe that a fairly close degree of accuracy has been maintained. The third part is a miscellaneous section showing sketches of some rimfire cartridges and a base of a 12-gauge shotgun shell.

I. When Roosevelt first came to the plains he stated: "I had a heavy Sharps rifle, .45-120, shooting an ounce and a quarter of lead, and a .50 caliber double barreled English Express" (Williamson, 1952, 189). At the time he wrote his book Hunting Trips of a Ranchman Roosevelt had given up both of these guns and was using a .40-90 Sharps for very long range work, a .50-115 six-shot Bullard Express, and, better than either of these, a .45-75 half-magazine Winchester Model 76.

In firearms Roosevelt seemed to prefer the Winchester rifle and the Colt revolvers. At one time or another Roosevelt used a Winchester Repeating Rifle, Model 73, caliber 44 W. C. F. (Winchester Center-fire Cartridge); the Model 76, caliber .45-75 W. C. F. necked, i.e., a shouldered case as opposed to a straight case (shown in the drawings). Sometime in 1884 he acquired a Winchester Hammerless Top Lever Breech-

loading Double barrel shotgun. This weapon is believed to have been manufactured in England.

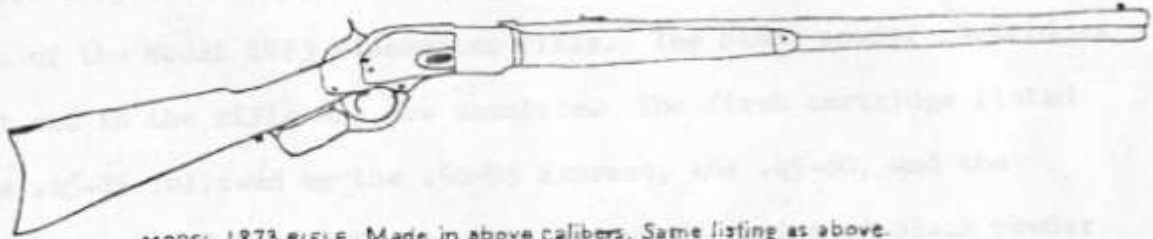
II. From the Elkhorn Ranch Site the archeologists recovered cartridges for the following rifles:

Winchester Model 1873

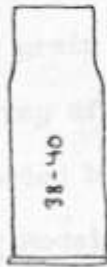
The Model 73 was built along the lines of the Henry and Model 1866, but was much stronger than its predecessors. The first 73's had a brass frame; and later steel was employed. The Model 1873 was made in the following calibers: .44-40, .38-40, 32-20 and also for the .22 short and long rimfire cartridges. All of the above cartridges are still on the active loading lists, that is, they are still being manufactured in the United States. The .44-40 cartridge was interchangeable between the Model 73 Winchester rifle, and the famous single action Colt revolver. The above cartridges were relatively slow in velocity as well as low in foot-pounds of striking energy. This was due to the relative lack of strength of the Model 73 action as compared to modern rifles. Even with smokeless powder the .44-40 using a 200 grain bullet has a velocity of about 1,310 feet per second and only 760 foot pounds of energy at the muzzle. Shooting at 100 yards the energy drops to only 490 foot pounds. Hence, to hit a target 200 yards away it would be necessary for the bullet to be raised 15 inches; this degree of trajectory is about equivalent to the modern .22 long rifle. The .38-40 and .32-20 were even less powerful, but the .44-40 was adequate for shooting deer at short ranges. In modern rifles the .32-20, with 115 grain jacketed bullet with modern smokeless powder No. 4759, has only a maximum velocity of 1636 feet per second. The .38-40 with 180 grain jacketed bullet with modern smokeless powder No. 4759 has a maximum velocity of only 1765 feet per second in a modern rifle. At this point



MODEL 1873 CARBINE, calibers .44-40, .38-40 and .32-20. Listed in catalogues 1875 to number 82, 1920.



MODEL 1873 RIFLE. Made in above calibers. Same listing as above.



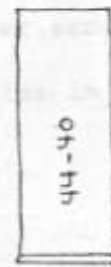
.518"

1.31"



.405"

1.30"



.525"

1.31"

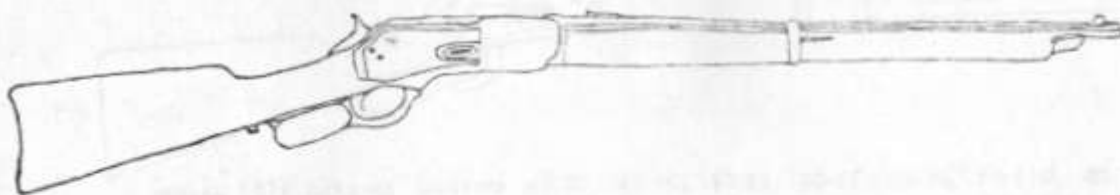
it is worth noting that the absolute maximum velocity obtainable with black powder such as was used in the middle and later 1800's was around 1,850 feet per second and this in guns of greater strength than were available during that period.

Winchester Model 1876

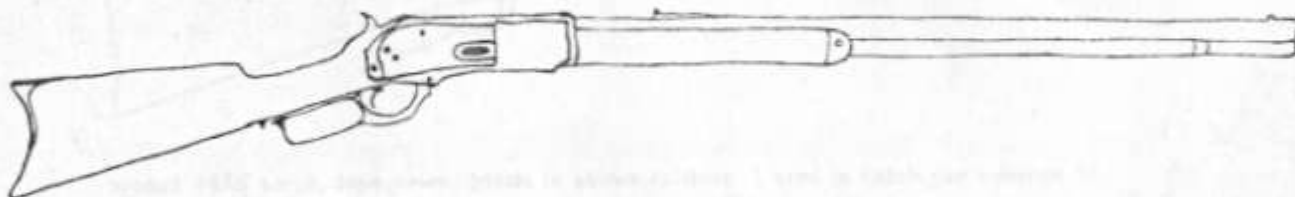
The Winchester Model 1876 was the answer to the American hunter's needs for larger black powder cartridges. The Model 76 was an enlarged version of the Model 1873 Winchester rifle. The black powder cartridges brought out in the rifle are now obsolete. The first cartridge listed was the .45-75 followed by the .50-95 Express, the .45-60, and the .40-60. The .45-75 with 350 grain bullet and 75 grains of black powder had a muzzle velocity of 1,382 feet per second; the .50-95 Express with a 300 grain bullet and 95 grains of black powder had a velocity of 1,556 feet per second. The .45-60 with a 300 grain bullet and 60 grains of black powder had a velocity of 1,314 feet per second while the .40-60 with a 210 grain bullet had a velocity of 1,532 feet per second. The manufacturing of the Model 1876 was discontinued sometime in 1897, and was superseded by the Model 1886.

Winchester Model 1886

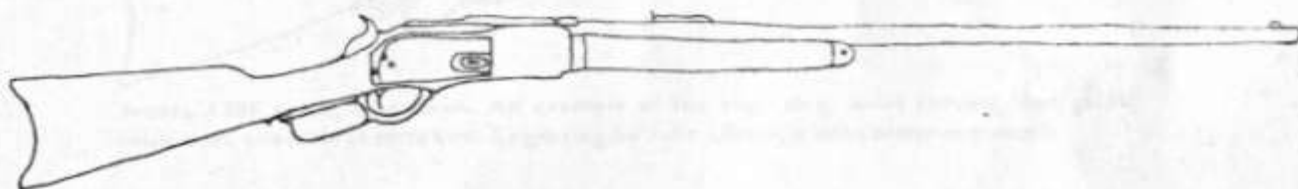
The Model 1886 was developed by the famous gun designer John Browning. The .33 Winchester was the only smokeless cartridge brought out in the Model 1886. However, there was a variety of black powder cartridges -- .45-70 - government cartridges .45-90, .40-82, .40-65, .50-110 Express, .40-70, .38-70 and the .50-100. The Model 86 was rechambered in 1936 for the .348, and called the Model 71 Winchester. The .45-70 was first used in the Model 1873 Springfield single shot rifle with a safe pressure of 25,000 pounds per square inch. The heaviest load for it was the standard .45-70-500, in which 70 grains



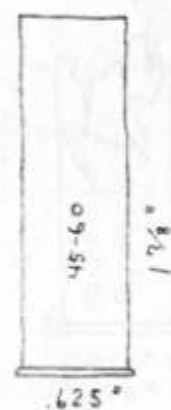
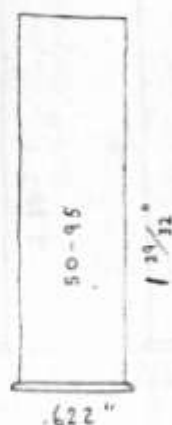
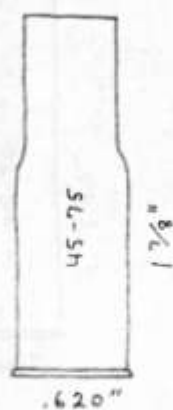
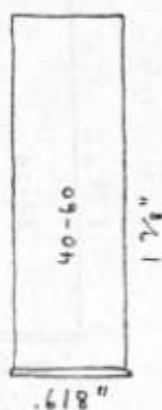
MODEL 1876 CARBINE, calibers .45-75, .45-60 and .40-60. Listed in catalogues 1878 to December 1892.



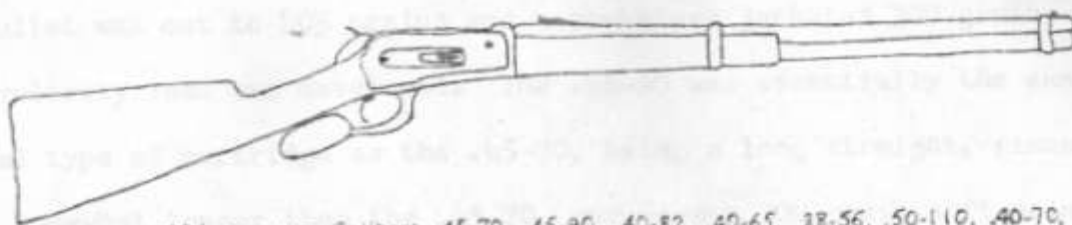
MODEL 1876 RIFLE, calibers .45-75, .45-60, .40-60 and .50-95 Express. Listed in catalogues 1878 to October 1893.



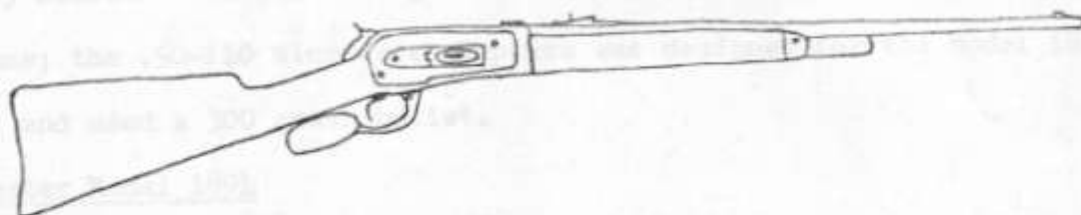
MODEL 1876 RIFLE, half magazine. Made in above calibers. Same listing as above.



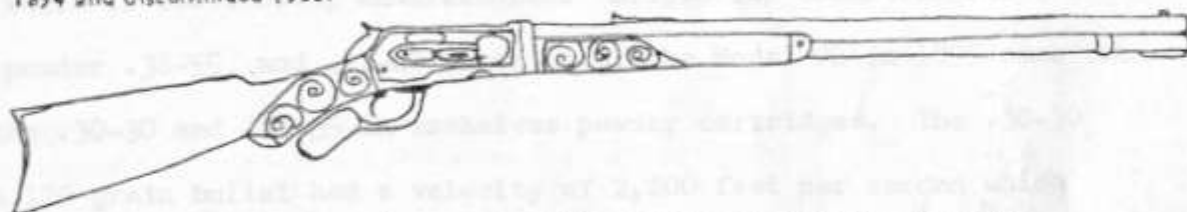
WINCHESTER RIFLES



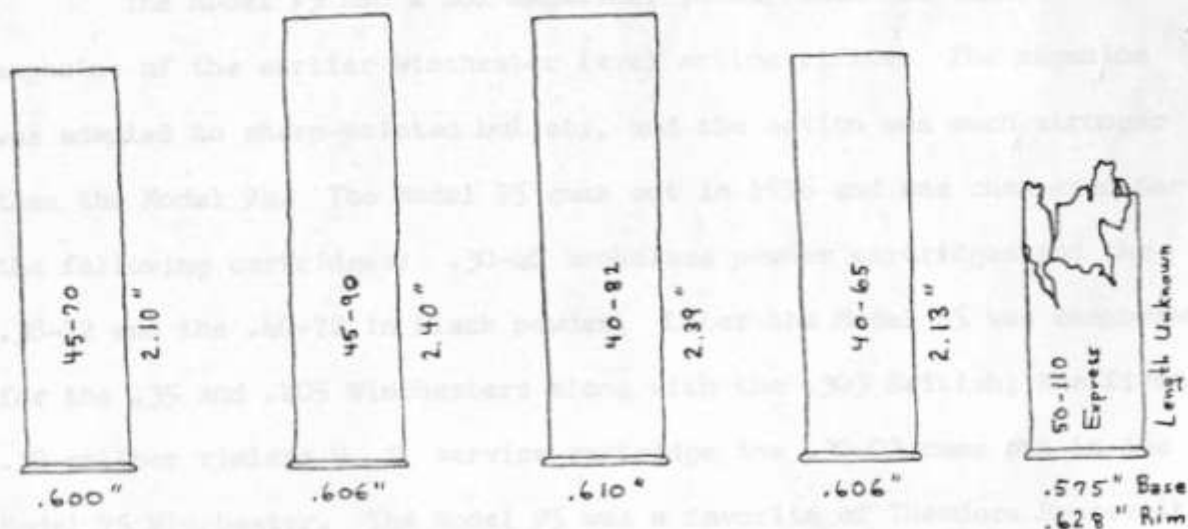
MODEL 1886 CARBINE. Calibers .45-70, .45-90, .40-82, .40-65, .38-56, .50-110, .40-70, .38-70, .50-100, .33 W.C.F. Listed in catalogues of June 1889 to number 81, 1915.



MODEL 1886 RIFLE, take down. Made in above calibers. Listed in catalogue number 52, 1894 and discontinued 1935.



MODEL 1886 RIFLE, take down. An example of the engraving, wood carving, and gold inlay work available at extra cost. Engraving by John Ulrich, a Winchester engraver.



of black powder was used to drive a 500 grain pure lead bullet. Later the bullet was cut to 405 grains and a smokeless jacketed 300 grain high velocity load was developed. The .45-90 was essentially the same general type of cartridge as the .45-70, being a long straight, rimmed case, somewhat longer than the .45-70, and used a 300 grain soft-point factory bullet. Other cartridges mentioned for this model were much the same; the .50-110 Winchester Express was designed for the Model 1886 rifle, and used a 300 grain bullet.

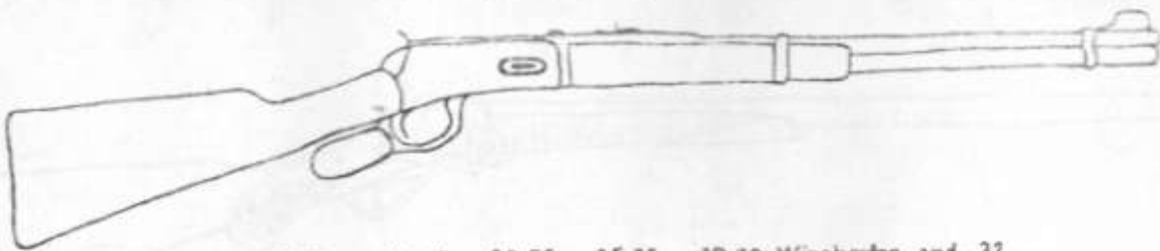
Winchester Model 1894

Probably the most popular Winchester ever made was the Model 1894, which is still being manufactured. Originally chambered for the black powder .38-55, and .32-40 cartridges, the Model 94 in 1895 came out with the .30-30 and .25-35 in smokeless powder cartridges. The .30-30 with a 170 grain bullet had a velocity of 2,200 feet per second which was adequate for killing deer at ordinary ranges.

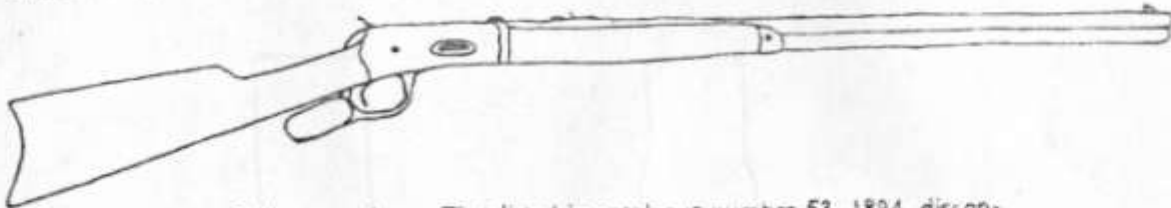
Winchester Model 1895

The Model 95 had a box magazine, rather than the tubular magazine of the earlier Winchester level action rifles. The magazine was adapted to sharp-pointed bullets, and the action was much stronger than the Model 94. The Model 95 came out in 1896 and was chambered for the following cartridges: .30-40 smokeless powder cartridges and the .38-72 and the .40-72 in black powder. Later the Model 95 was chambered for the .35 and .405 Winchesters along with the .303 British; the first .30 caliber rimless U. S. service cartridge the .30-03 came out in the Model 95 Winchester. The Model 95 was a favorite of Theodore Roosevelt when he made his hunting trip to Africa.

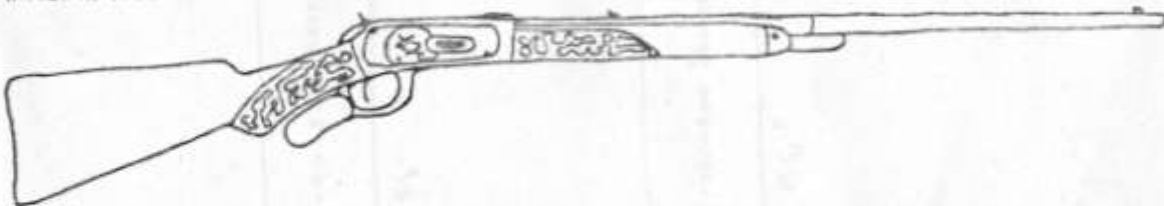
WINCHESTER RIFLES



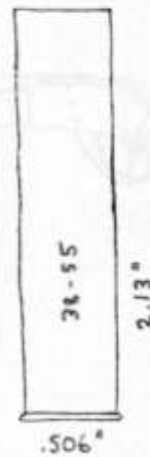
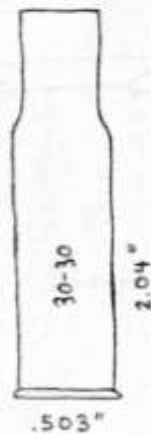
MODEL 1894 CARBINE. Calibers .32-40, .38-55, .25-35, .30-30 Winchester, and .32 Winchester Special. Listed in catalogue number 53, 1894, still in the line.

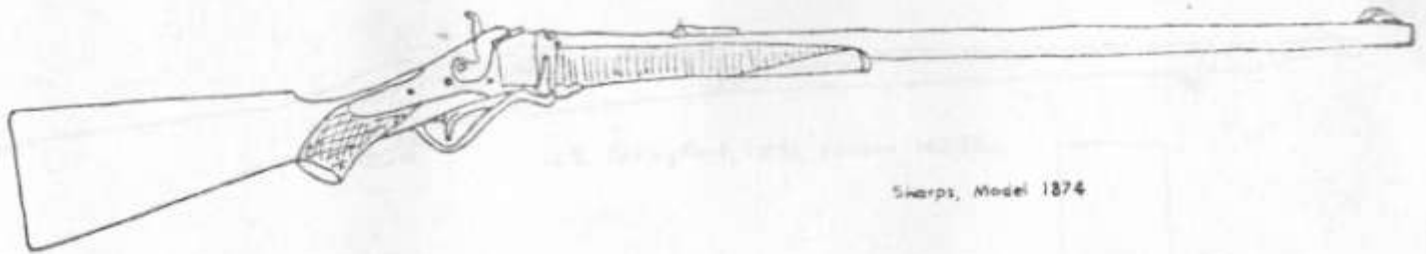


MODEL 1894 RIFLE. Calibers as above. First listed in catalogue number 53, 1894, discontinued in 1936.

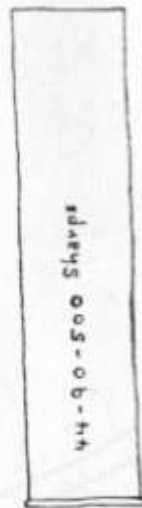


MODEL 1894 RIFLE, take down. Half magazine and fully engraved. The take down style was first listed in catalogue number 55, 1895 and was discontinued in 1936.





Sharps, Model 1874



44-90-500 Sharps

2 5/8"

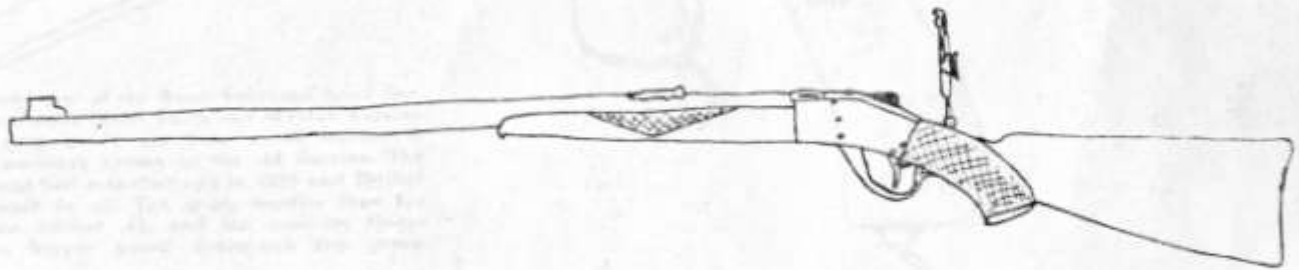
.605"



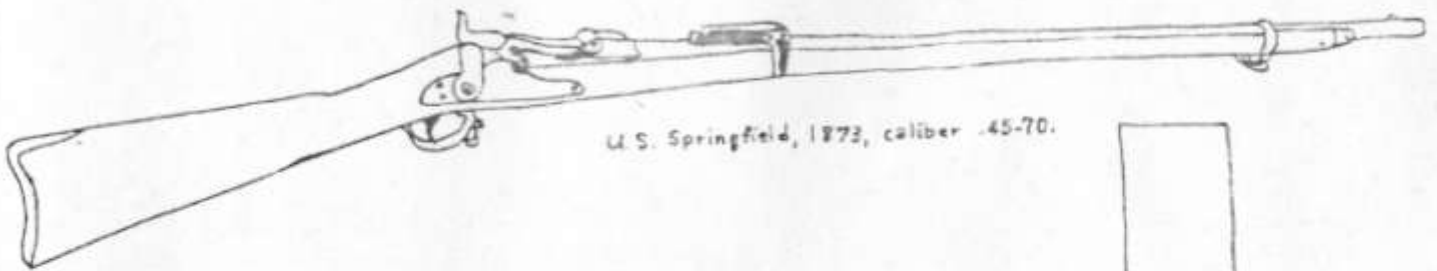
45-100-500 Sharps

2 13/32"

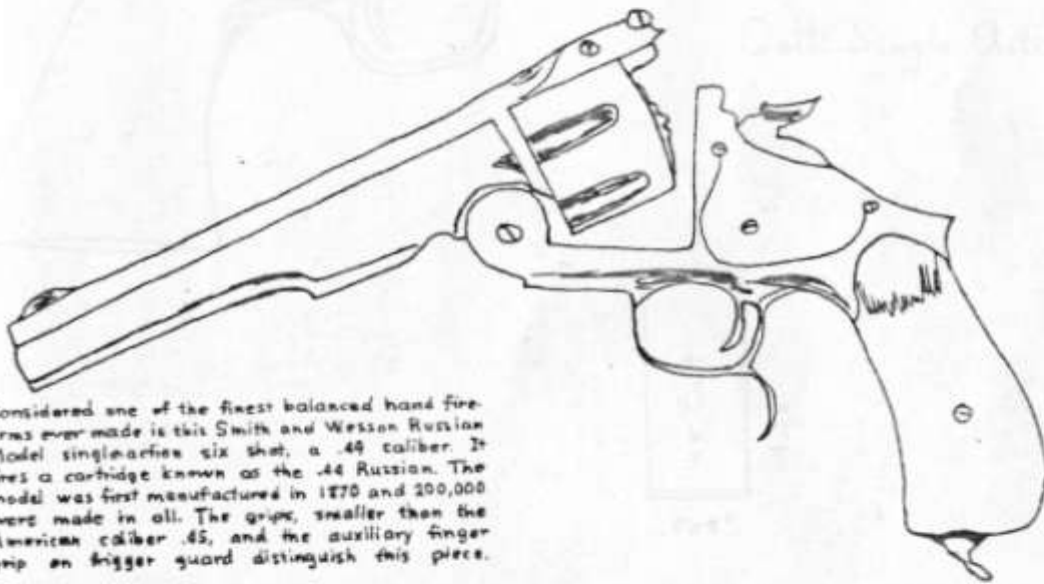
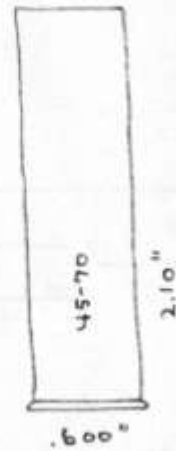
.603"



Sharps Mid-Range Rifle



U.S. Springfield, 1873, caliber .45-70.



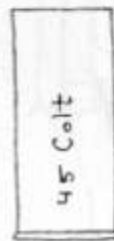
Considered one of the finest balanced hand fire-arms ever made is this Smith and Wesson Russian Model single-action six shot, a .44 caliber. It fires a cartridge known as the .44 Russian. The model was first manufactured in 1870 and 200,000 were made in all. The grip, smaller than the American caliber .45, and the auxiliary finger grip on trigger guard distinguish this piece.



44 S. W. Russian

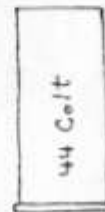


Colt Single Action Army 1873



.507"

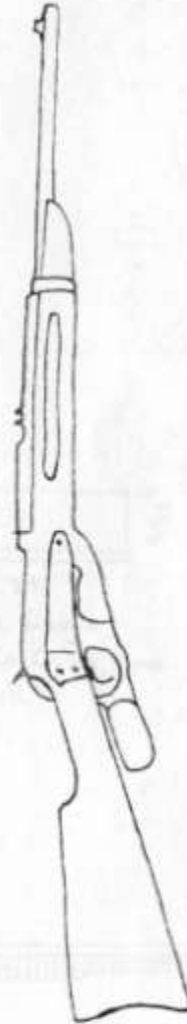
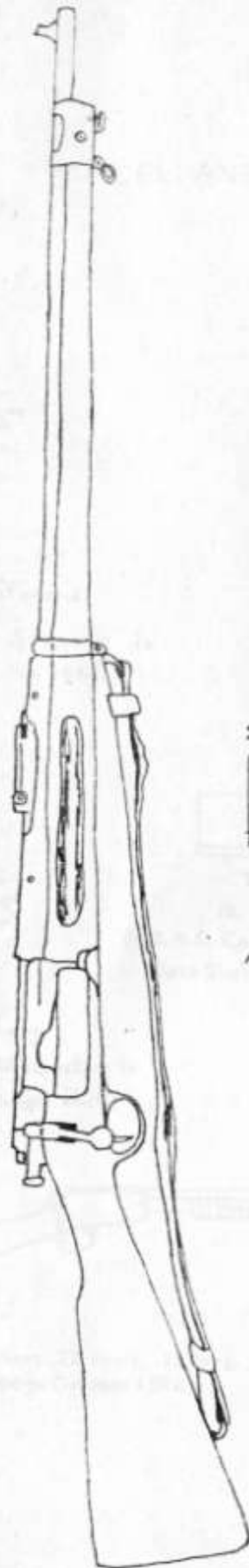
1.28"



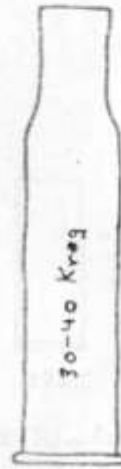
.485"

1 3/32"

Krag



MODEL 1895 CARBINE. Calibers 30 Army, 303 British, 30-03, 30-06. Listed in catalogues number 62, 1898, to number 89, 1934. (Winchester)



5
f
5

2.31"

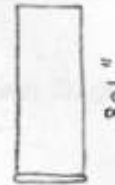
MISCELLANEOUS SHELLS



.337"

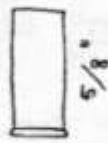
.25 Rimfire Stevens

Introduced by Stevens in
their #44 Rifle in 1885.



.376"

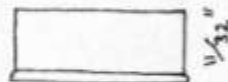
.32 Rimfire Long



.277"

.22 Rimfire Long

Introduced by Winchester in
1870 Gen Ballard single shot.



.875"

12 Gauge

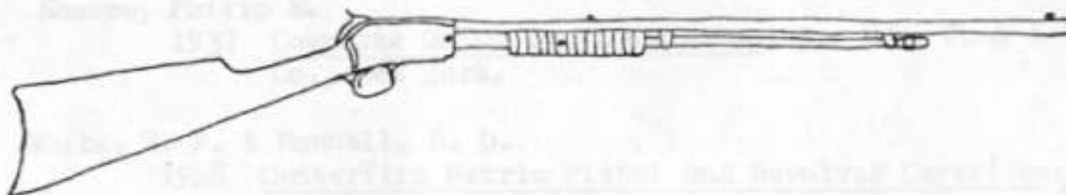
A.M.C. Co. Club, Low
Base Shell.



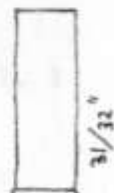
.275"

.22 CB Cap

Introduced by Flobert in
1885. 750 feet per second.
Marked S.B.



MODEL 1890 RIFLE. Calibers .22 short, .22 long, .22 long rifle or .22 W.R.F. Listed in
catalogues November 1890 to October 1892.



.300"

.22 W.R.F.

Introduced by Winchester
in 1890.

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Note: Other sources of information are the Lyman Handbook No. 39, and notes taken while attending the Colorado School of Trades, a 69-week course in Gunsmithing.

Appendix 2

Bone Materials at the Elkhorn Ranch

As might be expected both domesticated animals and wild species were represented in the bone material recovered from around the ranch buildings. Wildlife was abundant along the Little Missouri River during the 1800's, although the vast herds of bison had been greatly reduced by the time Roosevelt came into the area. Mountain sheep, elk, muledeer, whitetail deer and antelope were the principal game animals, and the abundant bones from these species indicate that they must have been a very important source of fresh meat. One of Roosevelt's pictures of the Elkhorn Ranch house shows the front porch almost surrounded by elk antlers.

The skull of a Bighorn sheep lay in the fill within the passageway into the cellar photo lab. In this appendix we have listed these bones only as Ovis canadensis. We were unable to determine whether the animal was Ovis canadensis canadensis or Ovis canadensis auduboni. Measurements from the skull (Foramen magnum 6.3 cm.; mastoid process 9.6 cm.) gave results that place it within the known range of either. The extinct Audubon sheep is thought to have ranged the badland areas along the Missouri River and its tributaries in North and South Dakota (Cowan 1940, 542). Apparently the Bighorn sheep were becoming quite scarce along the Little Missouri even earlier than the time of Roosevelt's visits. Howard Eaton killed two Mountain sheep on the river a few miles south of Medora in 1879. Eaton believed that Bighorn sheep were mostly gone by about 1887, but one old ram was taken as late as 1905 in North Dakota (Buechner 1960, 20-21). The skull from the Elkhorn may be remains from one of the last animals in that area.

Grizzly bears, bobcats, coyotes and wolves were also present. The coyote skull and fragments of bobcat bone in the fill within the cellar indicate that these predators were killed whenever possible. Roosevelt (1885, 26) tells of bobcats raiding his poultry pens and he mentions that cougars and wolves occasionally killed his cattle.

The bones of domestic animals include those of chickens, pig, cattle and horse. It looked as though a cow had wandered into the blacksmith shop and died, for most of an articulated skeleton was found there.

The original Field Specimen numbers, lettered in ink on each bone, are retained in the following distribution table.

TABLE 10

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Bighorn Sheep <u>Ovis canadensis</u>	Skull, posterior part only (1)	22	inside passage into photo lab
	Ulna (1)	38	inside east porch area
Badger <u>Taxidea taxus</u>	Mandible (1) Atypical	49	utility shed
Bobcat <u>Lynx rufus</u>	One-half of mandible (1)	17	entry into photo lab
Domestic Pig	Mandible (2)	46	barn
Coyote <u>Canis latrans</u>	Skull - complete with mandible and hyoid (1)	22	inside passage into photo lab
	Innominate bone (1)	2	area outside blacksmith shop
Packrat <u>Neotoma cinerea</u>	Partial skeleton with skull (1)	32	cellar, western room
Cow	Tibia (1)	23	photo lab
	Radius only (1)	48	pen, adjacent to utility shed
	Radius and ulna, complete (1)	3	inside blacksmith shop

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Cow (continued)	Femur, distal end only (1)	32	cellar, western room
	Ulna only, proximal end	48	pen adjacent to utility shed
	Metatarsal, complete (1)	3	inside blacksmith shop
	Cervical vertebra (1)	4	inside blacksmith shop
	Thoracic vertebra (1)	4	inside blacksmith shop
	Piece of scapula (1)	22	passageway into cellar
	Part of hyoid bone (1)	31	cellar, west room
	Cervical vertebra (1)	3	inside blacksmith shop
	Thoracic vertebra (1)	50	pen adjacent to utility shed
	Lumbar vertebra (2)	11, 14	inside blacksmith shop
	Lumbar vertebra (3)		inside blacksmith shop
	Proximal end of rib (2)	3, 47	inside blacksmith shop & one along eastern fence of corral
	Olecranon, incomplete	46	barn
	Teeth, incisors (3)	11	inside blacksmith shop
	Teeth, molars (2)	3, 11	inside blacksmith shop
	First phalanges (3)	4, 41, 48	one in blacksmith shop; 2 in util. shed & barn area
	Second phalanges (3)	3, 4, 49	2 in blacksmith shop; 1 in util. shed
	Third phalanx (1)	3	in blacksmith shop
	Ulnar carpal (1)	3	inside blacksmith shop
	Tuber calcis (3)	3, 32, 36	in blacksmith shop; cellar west room; cellar, photo lab
	Fused central & fourth tarsal bones (3)	11, 32, 36	in blacksmith shop; cellar west room; cellar photo lab

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Cow (continued)	Tibia, proximal end missing (1)	36	cellar, photo lab
	Tibia tarsal (3)	4, 32, 36	in blacksmith shop; west room; cellar photo lab
	Thoracic vertebra	14	inside blacksmith shop
	Humerus, proximal end only	39	outside house, east of porch
<u>Antelope</u> <u>Antilocapra</u> <u>americana</u>	Atlas (1)	42	cellar photo lab
	Axis (1)	38	inside east porch area
	Cervical vertebra (4)	38	inside east porch area
	Lumbar vertebra (1)	49	utility shed
	Thoracic vertebra (7)	32, 38, 42	cellar, west room; east porch; cellar photo lab
	Cadual vertebra (5)	4	in blacksmith shop
	Radius (10)	4, 7, 29, 38, 48, 49, 50	inside blacksmith shop; outside north wall of house; inside east porch area; utility shed and adjacent pen
	Humerus (7)	10, 17, 29, 34, 38, 40, 50	outside sw corner blacksmith shop; cellar photo lab; outside north wall of house; outside west wall of house; inside east porch; pen adjacent to utility shed
	Femur (3)	49, 50	utility shed and adjacent pen
	Tibia (6)	38, 42, 49	inside east porch; cellar photo lab; utility shed
	First metatarsus (3)	16, 31, 38	inside east porch; cellar west room
	First metacarpus (1)	39	outside, east of porch
	Tibial tarsal (3)	13, 49, 50	utility shed and adjacent pen; in- side blacksmith shop

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Antelope <u>Antilocapra</u> <u>americana</u> (continued)	Tuber calcis (5)	24, 31, 38, 49, 50	cellar, west room; inside east porch; utility shed and pen
	First phalanges (12)	10, 15, 17, 23, 31, 32, 33, 34, 38, 41	outside se corner blacksmith shop; fill over photo lab; photo lab; cellar west room (3); out- side house on west; inside east porch area; inside south piazza area
	Second phalanges (4)	20, 23, 32, 37	fill in photo lab; cellar, west room (2); west stairway into cellar
	Third phalanges (6)	17, 28, 32, 34	photo lab; cellar west room; area east of house; area west of house
	Olecranon part of ulna (2)	17, 39	photo lab; area east of porch
	Scapula (9)	17, 39, 23, 29, 34, 42, 48, 49, 50	fill in photo lab; outside north wall of house; area west of house; photo lab; utility shed, pen; pen adjacent to utility shed
	Left mandible (1)	50	pen adjacent to utility shed
	Posterior part of skull, in- cluding the occipital con- dyle, tympanic bulla, mas- toid process, basioccipital and supraoccipital, etc. (3)	22, 27, 34	entryway to photo lab; inside house (not cellar); area west of house;
	Ribs (19)	15, 17, 20, 27, 38, 42, 49	photo lab; fill in entryway to photo lab; west room, cel- lar; inside house; east porch area; utility shed

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Elk <u>Cervus</u> <u>canadensis</u>	Antler, pieces (4)	29	along north wall of house
Deer <u>Odocoileus</u> <u>hemionus</u> or <u>Odocoileus</u> <u>virginianus</u>	Skull, incomplete (1)	29	along north wall of house
	Mandibles, incomplete (3)	49	inside utility shed
	Antlers, pieces (7)	3, 11, 14, 29, 42 48,	blacksmith shop (3); against north wall of house; photo lab; pen adjacent to utility shed
	Pieces of mandible and palatine with teeth (10)	24, 28, 49, 50	cellar, west room; area east of house; utility shed; pen adjacent to utility shed
	Cervical vertebra (1)	49	utility shed
	Thoracic vertebra (10)	23, 29, 42, 46, 49, 50	photo lab; against north wall of house; barn; utility shed; pen
	Lumbar vertebra (10)	22, 23, 27, 29, 40, 42, 50	inside entryway to cellar (2); inside house area (not cellar-2); outside north wall of house; pen adjacent to utility shed
	Sacrum (1)	50	pen
	Ribs (2)	29, 48	against north wall of house; pen
	Scapula (9)	22, 27, 47, 48, 49	inside entryway to cellar; inside house area; fence line east of corral; utility shed
	Tibia (3)	20, 50	inside entryway, cellar; pen
	Radius (2)	48, 50	pen (2)
	Humerus (3)	20, 33, 48	inside entryway to cellar; cellar, west room; pen

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Deer (continued)	Femur (1)	41	inside south piazza area
	Metatarsus (5)	17, 31, 40, 46, 49	photo lab; cellar, west room; eastern half of house; barn, utility shed
	Metacarpus (4)	15, 20, 34, 40	fill over photo lab (2); area west of house; eastern half of house
	Innominate (2)	30, 49	fill in photo lab; utility shed
	Tuber calcis (2)	16, 48	entryway to photo lab; pen
	Tibial tarsal (4)	20, 23, 27, 32	cellar, west room; inside house; photo lab; cellar, west room
	Phalanges, first and second (20)	10, 17, 20, 24, 27, 28, 31, 34, 40, 50	outside blacksmith shop; photo lab; west room, cellar (3); in house (3); pen; inside house (not cellar)
Snails <u>Cameloma</u> <u>decesum</u>	Complete shells (4)	28, 29, 33	outside house, east and north; cellar, west room
<u>Undetermined Genus and Species</u>			
Artiodactyla possibly deer or antelope	Sesamoid and phalanges (13)	7, 10, 14, 17, 20, 23, ⁺ 24, 28, 31, 34, 37	blacksmith shop (3); photo lab (2); west room cellar; area east of house; area west of house; stairway into west cellar
	Fused central & 4th tarsal bones (2)	31, 50	west room, cellar; pen

TABLE 10(continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Artiodactyla Possibly Deer or Antelope (continued)	Radius, tibia, humerus femur (11)	14	blacksmith shop;
		15	entry to photo lab;
		23	cellar, west room;
		32	inside east porch
		38	area; area east of
		39	house; photo lab;
		42	pen
		48	
		50	
	Innominate (1)	49	utility shed
	Tuber calcis (1)	16	entryway to photo lab
Possibly Cow or Horse	Metacarpus or metatarsus (1)	4	inside blacksmith shop
	Thoracic vertebra (3)	37 42	stairway into west room of cellar; photo lab
	Lumbar vertebra (2)	13 49	utility shed; in blacksmith shop
	Piece of innominate (1)	40	inside house area
Possibly Domestic Pig	Distal end of humerus (1)	46	barn
	Radius (1)	46	barn
Possibly Cow, Deer or Antelope	Tarsal and carpal bones (12)	42	photo lab (3); in
		4	blacksmith shop (2);
		14	west room in cellar;
		17	inside east porch
		20	area; pen adjacent
		32	to utility shed
		36	
		38 50	
Carnivores Possibly Fox <u>Vulpes macrotis</u> <u>Vulpes fulva</u>	Innominate bone (2)	49	Utility shed
	Axis (1)	49	utility shed
	Thoracic (1)	49	utility shed
	Lumbar (1)	49	utility shed
Skunk <u>Mephitis</u> <u>mephitis</u> , possibly dom- estic Cat	Femur (1)	46	inside barn area

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
Birds - <u>ca.</u> size of Red Wing Blackbird, perhaps. Robin - <u>Turdus</u> <u>migratorius</u> Meadowlark - <u>Sturnella magna</u> Flicker - <u>Colaptes auratus</u>	Metatarsus (2)	10 49	utility shed; outside blacksmith shop
	Caracoid (2)	17 34	photo lab; area west of house
	Tibia (3)	20 38	west room cellar; inside east porch
	Humerus (2)	17	cellar, fill in photo lab
	Second meta- carpal (1)	23	cellar, fill in photo lab
	Fibula (3)	23 29 30	fill in photo lab; out- side north wall of house; west room, cellar
	Ulna (1)	23	fill in photo lab
	Radius (1)	41	inside south piazza
Domestic Fowl, Size of chicken	Femur (2)	48	pen adjacent to utility shed
	Humerus (2)	48	pen adjacent to utility shed

LIST OF UNIDENTIFIED BONES

Radius (2)	27	inside east porch area; inside house (not cellar)
	38	
Mandible (1)	28	east side of house
Caudal vertebra (3)	20	inside east porch area; west room, cellar
	38	
Ribs (3)	34	area west of house; in- side south piazza; ut- ility shed
	41	
	49	
Pieces of cranium (4)	17	fill in photo lab; cellar west room; area west of house; inside east porch area
	33	
	34	
	38	
Femur (1)	49	utility shed
Ulna (1)	17	fill in photo lab
Vertebra (1)	27	inside house (not cellar)

TABLE 10 (continued)

BONE IDENTIFICATION REPORT ON THE ELKHORN RANCH SITE

Animal	Bone	F.S.#	Location
List of Unidentified Bones (continued)	Epiphysis and articular cartridges (24)	14	fill in photo lab;
		17	blacksmith shop;
		20	inside house (not
		27	cellar); west room
		32	cellar (2); area
		36	inside house;
		38	photo lab; inside
		40	east porch; pen
	Bone pieces unidentified as to bone or species	48	adjacent to util- ity shed
		11	photo lab (2);
		13	blacksmith shop
		14	(3); entry to
		16	photo lab; west
		17	room, cellar; area
		20	inside house; area
		34	west of house; in-
		38	side east porch;
		40	inside south pi-
		41	azza; barn
		42	
		46	

